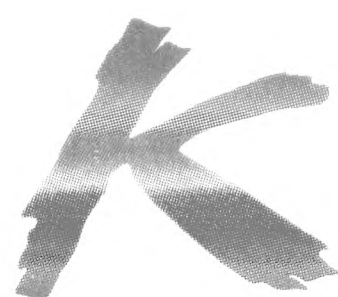


ZOOGER

JULY • AUGUST 1997





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ZOO GOER

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A Kansas couple that couldn't stay put, Martin and Osa Johnson were pioneers in nature filmmaking and photography, opening a window into an exotic tropical world most Americans had never seen.

Friends of the National



is a nonprofit organization of individuals, families, and organizations who are interested in helping to maintain the status of the National Zoological Park as one of the world's great zoos, to foster its use for education, research, and recreation, to increase and improve its facilities and collections, and to advance the welfare of its animals.

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Cover: *Tyger! Tyger!* (detail) © Terry Isaac, 1997. Photo courtesy of Mill Pond Press.

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THROUGH THE EYES OF AN ARTIST

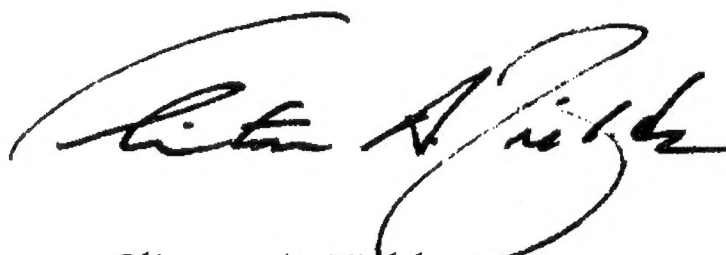
As FONZ's third annual Wildlife Art Festival approaches, I find myself once again amazed at the art that will be exhibited by our 90 wildlife artists.

Working as I do at the National Zoo, I am fortunate in my chance to experience exotic wild animals every day. I can stop to watch a cheetah stalk some unseen prey, an elephant roll mightily in the dust. But looking at these same scenes through the eyes of an artist, I see them in new ways. In a painting or a sculpture, the artist stops the action, giving just a hint of what came before and what will come next. Rather than simply watching the drama of a cheetah chase or an elephant dust bath, the viewer actively fills in the blanks, so to speak, and becomes part of the show. And this is as true of a depiction of an exotic elephant or cheetah as it is of a commonplace cardinal or deer. In fact, while wildlife art offers us visions of wildlife and wild places we may never have the opportunity to see for ourselves, it also helps us to appreciate—to see through fresh eyes—the familiar species that are part of everyday life in our urban and suburban environments.

When FONZ began the Wildlife Art Festival, it was with this mission in mind: To find new ways to instill in more people an appreciation of wildlife—wildlife in their own backyards as well as in the remotest reaches of the planet—and the desire to preserve it. FONZ members and many others already visit the National Zoo regularly to see the wonderful exhibits and interesting animals that educate and inspire. Others need more: the enticement of food and entertainment at ZooFari, the mellowing music of Sunset Serenades, the allure of the Wildlife Art Festival. In essence, all of our special events have the same mission as the festival, although each with its own flair. We want to reach everyone we can, whatever way we can, with our message of wildlife conservation. And I believe that, no matter why someone comes to the Zoo, he or she is not likely to leave without receiving that message.

FONZ members play a special role in helping us to carry out our mission of wildlife conservation. You can support us by participating in these special events at the Zoo, and by bringing your friends, co-workers, neighbors, and relatives with you. The Wildlife Art Festival is an especially good opportunity to do this. Along with all the outstanding art, there will be musical entertainment, an ethnic food court, arts and crafts for kids, indeed, something for everyone. And once they're here at the Zoo, I suspect few people will be able to resist a round of animal watching.

I look forward to seeing all of you in September.



Clinton A. Fields
Executive Director

P.S. The Wildlife Art Festival runs from September 18 to 21. Please check page 27 for details.

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The desert that glistened with water.

Southeastern New Mexico.

It's home to mesquite and
chaparral, dust devils and mesas
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with heat.

For the animals of this parched
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area helped build special watering
holes just for them.

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San Francisco, CA 94120.

After photographing mountain gorillas in 1930, Osa Johnson had this to say: "All of our big game hunting adventures are as nothing to the thrills I've had today." Capturing these wild primates on film and later sharing the images with a wide audience turned out to be a much more thrilling, lasting experience for Mrs. Johnson than killing them would have been. Skilled hunters, both with guns and cameras, Mrs. Johnson and her husband Martin bridged two eras: the age of the big hunt and the age of ecotourism. These two were at once adventurers and pioneers—capturing on film for the first time many wild animals in their wild habitats. Their vivid photography opened a window, in the form of books, films, and photos, into distant jungles and savannas many Westerners only dreamed of seeing in person.

Today, wildlife art plays a similar role in captivating animal lovers and increasing their awareness of the need to conserve wildlife and wild habitats. What would the world be like without tigers? A quick look at Terry Isaac's *Tyger!, Tyger!* on the cover of this issue hints at the spectacle and spirit that would be lost forever. It is at this visceral level—the love of natural beauty—that people are inspired to become conservationists.

We see exotic wildlife in many places these days: in photographs, works of art, on television, and on the Internet. But rarely do we get the chance to come face to face with real-life hippos, giraffes, flamingos, or Komodo dragons. The 1997 Friends of the National Zoo Wildlife Art Festival provides a rare opportunity both to meet animals and celebrate the art and artists that capture them on canvas, celluloid, wood, or bronze.

On the following pages, we offer a sampler of works by festival artists. As you'll see, the depictions of wildlife are as varied as the event, which brings together 90 artists and 5,000 animals of more than 500 species.

The spirit of Martin and Osa Johnson lives on in today's wildlife art. Many of the remote landscapes the Johnsons photographed are gone, converted to farmland or cleared to make way for villages. But many remain. The future of these and many other habitats is tenuous. By celebrating wildlife in art, we not only enjoy the colors and actions of animals—we acknowledge the importance of saving wildlife, and preserving the health of our planet.

—Howard Youth



Sunflowers; Julia Rogers



The Beginning of the End;
Irene Longfellow



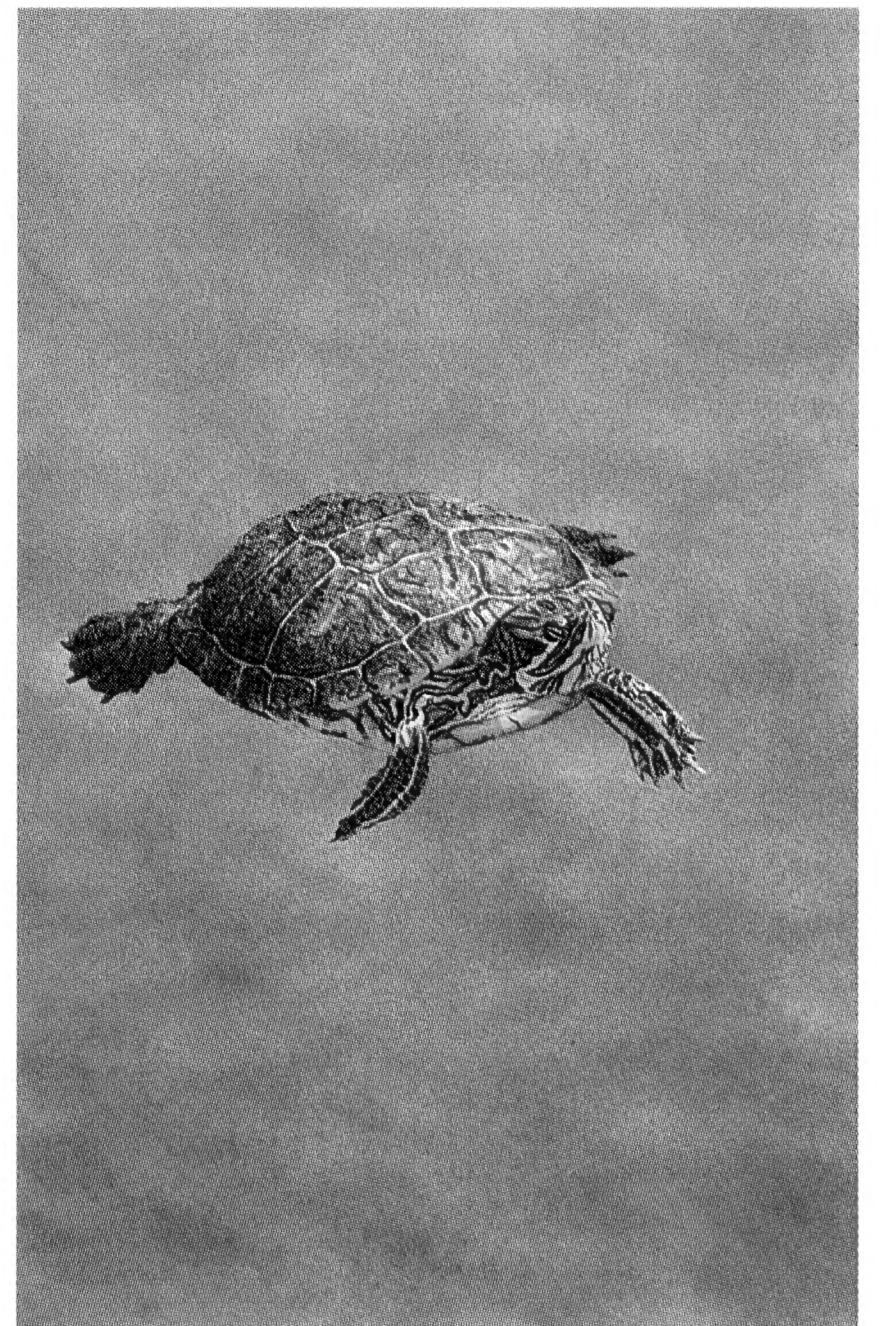
Mission Wall—Black-chinned Hummingbird; Terry Isaac
Photo courtesy of Mill Pond Press.



Domino; Nancy Glazier



Serengeti Cheetahs; B.J. Martin

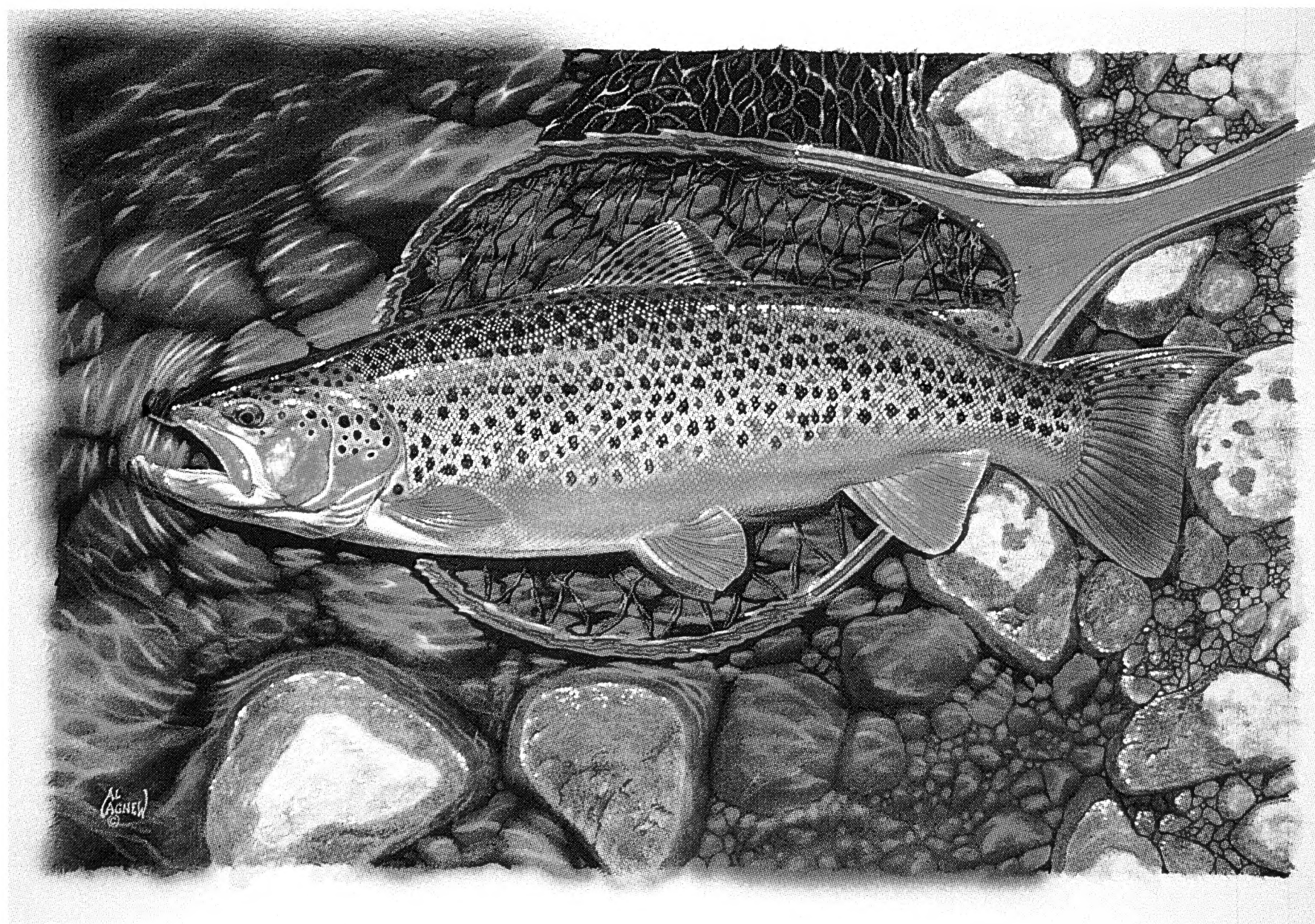


Red Eye; Jeremy Pearse



Golden Dawn—Young Tiger; Matthew Hillier

Photo courtesy of Mill Pond Press.



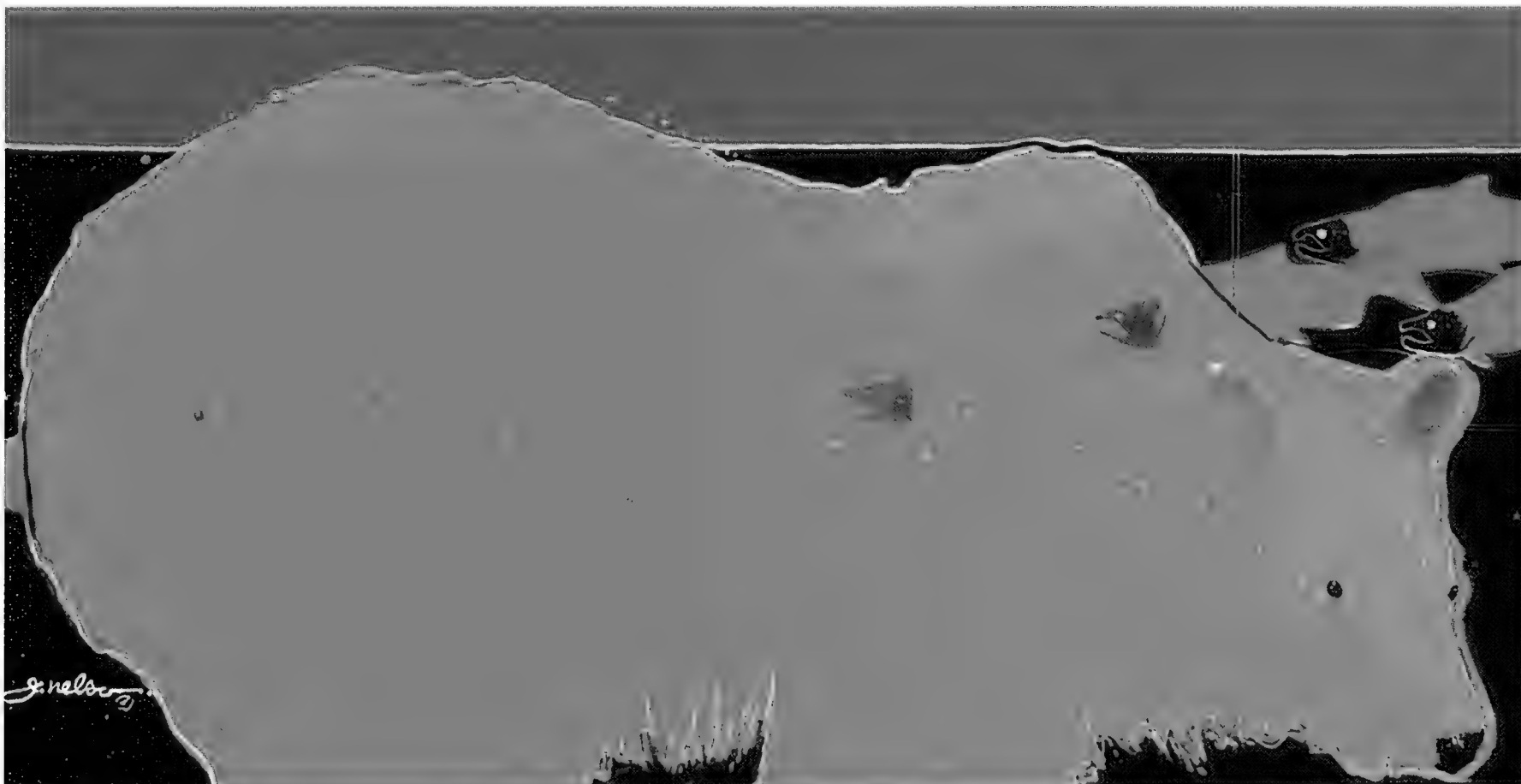
Catch of the Day; Al Agnew



Rapture; David L. Pratt



Al and Woody; Steven Hand



Top of the Order; Jim Nelson



Double Trouble; Andrew Bone



Nature's Melody; Lavanna Story Brazil



Big Frog in a Little Pond; Ruth Ray



Black-crowned Night Heron; Christopher Walden



High Noon; Gijsbert van Frankenhuyzen

Etched in Stone

JANEEN
RENAGHAN

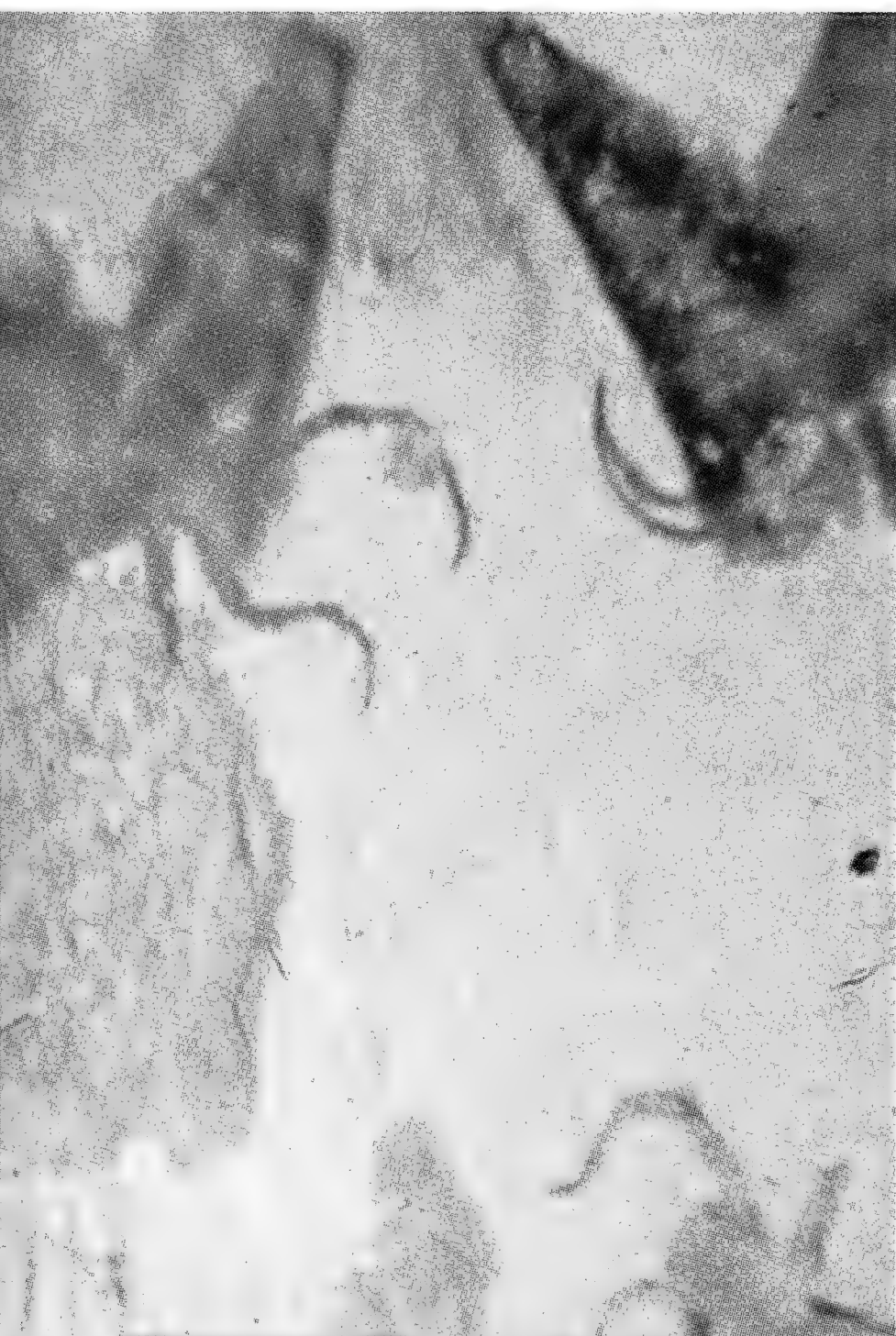


The cave ceiling at Lascaux, France, painted 17,000 years ago, shows the colors of Cro-Magnon art, and its emphasis on animals. Shown here are a horse and cows.

A man crawls into the recesses of a dark subterranean tunnel, his bare feet and deerskin sheath dragging on the rock. In his hand, a stone lamp filled with fat and lit by a wick of moss guides him deeper into the cavern, under piercing stalactites, over the bones of bears. A half-mile from the mouth of the cave he reaches a chamber and, standing, inventories his tools: a large, flat bone; a stone scraper; a bristly reed; and a flint knife. Held to the rock wall, the flickering light from the lamp animates a Paleolithic animal kingdom. Bulls stampede in a brown blur of hoofs and swinging tails. Black horses canter. A red cave bear lumbers. A woolly rhinoceros stands, stiff and immobile in its unshorn coat. On his bone palette, the man com-

bines a chunk of red ocher with animal fat. He dips a reed into the mixture and applies it to the rough, natural canvas, each stroke comprising some of the earliest known evidence of human existence.

Almost three years ago, a man named Jean Chauvet stumbled upon a limestone cavern not unlike this one in southeastern France, near Avignon. The cavern, now named after the fortuitous explorer, is about 30 feet below ground and contains the oldest cave paintings for which we have radiocarbon dates. Radiocarbon dating, the process by which the age of an object is determined by the radioactivity of its carbon content, suggests that the art in Chauvet is about 31,000 years old, 4,000 years older than that in an under-



Neg./Transparency no. K6050 and K6051. Courtesy Dept. of Library Services, American Museum of Natural History.



Neg./Transparency no. K6054. Courtesy Dept. of Library Services, American Museum of Natural History.

A pregnant cow painted on the cave in Lascaux, France.



Neg./Transparency no. K6054. Courtesy Dept. of Library Services, American Museum of Natural History.

water cave at Cosquer, and 14,000 years older than the famous art of Lascaux. Because the paintings at Chauvet are so ancient, we might expect them to be crude, the work of men not far along the evolutionary road. But the beauty and diversity of these paintings and engravings rival those of any cave. In fact, they are as or more skillful than many works completed three millennia later, turning the linear way in which we have understood art history on its head. The art in Chauvet has caused many historians and scientists to throw away their time lines along with their belief that art progressed and matured steadily over the course of the Upper Paleolithic era, which lasted from approximately 35,000 to 8,000 BP (Be-

fore the Present).

One does not stroll through the gallery at Chauvet; instead, one ducks, crawls, and explores. The Upper Paleolithic was a time toward the end of the last ice age, when the sea level was 300 feet lower than it is today and cold climatic conditions often drove people into shelter. Typical of many cave art sites, the muraled chambers at Chauvet are far from the entrance, in rooms off a labyrinth of tunnels. The inaccessibility of the art suggests that, unlike the paintings in our living rooms, the purpose was not decorative; these pictures were *used* for something.

The Cro-Magnons, early *Homo sapiens sapiens* living in Europe, possessed an advanced brain that allowed them to think

on a symbolic level and, therefore, to communicate through visual images. These intelligent and imaginative hunter-artists *invented* representation. But what sort of symbols did they construct, and why? Do stampeding bulls and galloping horses express certain fears and needs? Are they somehow involved in rituals concerning hunting or fertility? Are they magical? Chauvet is not the only cave that calls into question widely accepted theories of the purpose and origins of prehistoric art. An exploration of cave art in Europe and new research of rock shelters of South Africa may help bring this ancient world out of the dark.

★ ★ ★ ★ ★

As with any period in art history, generalizations may be made about the style and subjects of European Paleolithic cave art. When one looks at an Upper Paleolithic cave painting in Europe, the use of primary colors, the variety of technique, and the consistent subject matter are clearly visible. The Cro-Magnon palette was fairly colorful, considering the available materials and lack of art supply stores. Paint was made by mixing pigments from natural substances such as yellow, red, and brown ocher, black oxide of manganese, vegetable charcoal, and clay with binders such as sap, animal fat, blood, and even urine. The mixture was applied to the rock surface with anything from creative



Courtesy of the San Heritage Centre, University of the Witwatersrand.

San Bushmen carefully painted their subjects, such as this eland, which decorates a sheltered wall in eastern Cape Province, South Africa.

fingers to brushes made of animal hair, feathers, or splinters of bone. Blowpipes, straw-like tools usually made of reeds, were used to trace outlines and to blow pigments where we would use a ladder, on ceilings and in tight corners.

Engravings, just as common in caves as paintings, were created through different techniques. The rock surface was punctured with sharp objects (such as flint points) to produce an image made up of a series of dots, or delicately chiseled to create a fine outline. A somewhat less precise method involved scratching or scraping dark rock surfaces to reveal a picture in the lighter rock underneath.

A rock wall is certainly not as smooth a canvas as a closely woven strip of cloth. The natural swells and recesses in the rock were not necessarily an obstacle, though. Artists softened or flattened rough edges with a sharp stone, or used the uneven surface as a convenient three-dimensional enhancement to a picture. Bulges in the rock, for example, could literally flesh out fat or pregnant animals.

But even more noticeable than the colors or technique is the overwhelming presence of large animals—horses, bison, wild cattle, mammoths, deer, rhinoceroses, lions, bears, reindeer, and goats—many of which no longer walk this earth. Prehistoric cave galleries are often the only visual documentation we have of long-extinct mammals, including the European mammoth (*Elephas primigenius blumenbach*), a long-haired, giant-tusked forerunner of the modern elephant; the heavy-humped woolly rhinoceros (*Tichorinus antiquitatis blum*), an ancient mass of tufts and tangles; and the European cave bear (*Ursus spelaeus*), a domineering creature standing ten feet tall, whose powerful jaw contained enormous canine teeth. Smaller mammals, birds, and other creatures also appear, though in lesser numbers. In Chauvet, an engraved owl, a red panther, and a spotted hyena were identified on the rock face—some of the few known images of these animals in Upper Paleolithic caves in Europe.

In addition to animals, bewildering geo-



Upper Paleolithic art often includes strange hybrid creatures such as "Sorcerer" from Trois Freres, France (shown here). Many think they represent magicians, sorcerers, or gods.

From *Four Hundred Centuries of Cave Art*, by Abbe H. Breuil. Neg. no. 329853. Photo by Logan. Courtesy Dept. of Library Services, American Museum of Natural History.

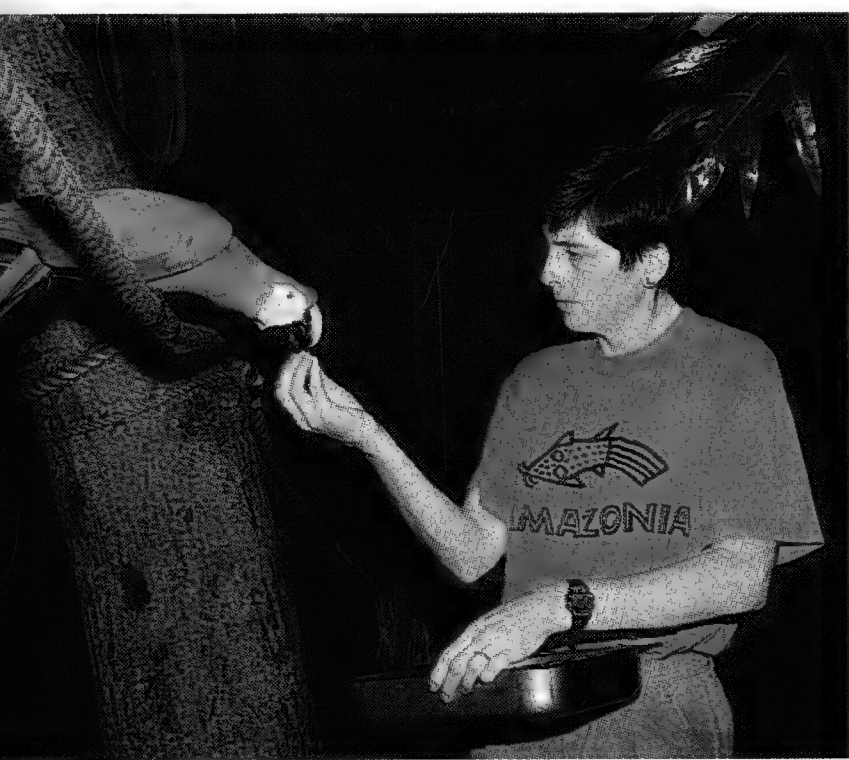
Do The Zoo '97!

INSIDER TIPS • ANIMAL INFO • ZOO NEWS

BEHIND THE SCENES AT AMAZONIA:

Working the Urban Jungle

As they roam around the re-created rainforest of Amazonia, visitors can peek into the field station of a fictitious research scientist, Dr. Brasil. The elusive doctor always seems to have just left, venturing out into the field while visitors stay behind to peer at his tanks of specimens and peruse tacked-up newspaper articles about the most recently discovered species of the Amazonian rainforest. The field station is always full of new information and meticulously laid

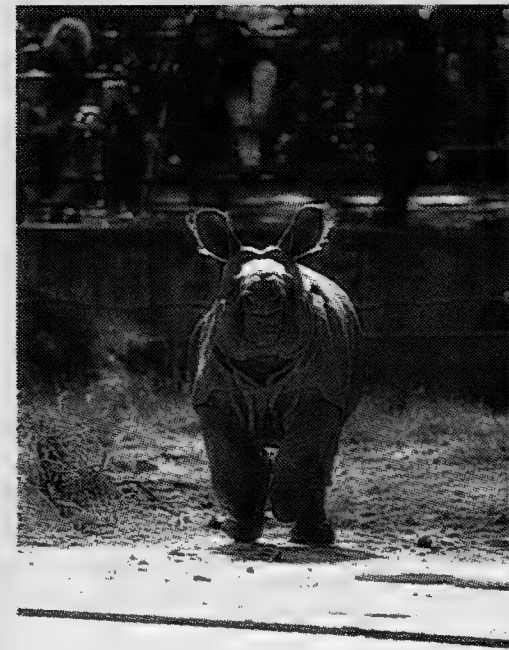


out—so much so that you would swear someone really is spending hours each day there. That “someone” is the exhibit’s staff. Keepers, those animal lovers in shorts and hiking boots, are the real Dr. Brasils, setting up the field station in the early

mornings for each new day of visitors.

Amazonia’s lush forest requires constant attention and keepers are always on the move. “So many of our activities are out in the public,” explains Amazonia keeper Blake Rushin. Whether they are hanging over walls to pull away dead leaves clogging water filters, balancing on rocky ledges to lower bundles of lettuce and other vegetables into the simulated river for large schools of tropical fish to nibble on, or rappelling down walls to clean the acrylic tank-view windows, keepers often find themselves part of the exhibit as well.

continues on page 2



NEW IN 1997

Don’t miss baby rhinos Chitwan and Himal, born in the fall of 1996.

Speke’s gazelles, with snouts built for snorting, are among the Zoo’s newest species. Look for babies, too.

The Zoo’s American bison have moved to the outdoor exhibit across from Lot A, and Bactrian camels have moved to the former bison area next to the Small Mammal House during the construction of Grasslands.

See the new Amazonia Science Gallery, where learning has never been so much fun.

Check out the fabulous Wildlife Walls around the Lion/Tiger exhibit, then ask at any information station how your name can linger at the Zoo long after you’ve gone home.

BLAST FROM THE PAST

During World War II, all of the Zoo’s venomous snakes were sent to zoos in the middle of the country. Officials feared the snakes would escape and threaten human lives if the capital were bombed.

Join FONZ Today!

Ask at any information station or gift shop about the benefits of being a member of Friends of the National Zoo. If you join, right away you’ll park free and enjoy a 20-percent discount in the shops. Plus, you’ll receive six stunning issues of *ZooGoer* in the next year. And that’s just the beginning. From out of town? Ask about FONZ’s special membership for far-flung friends. Call 202.673.4961 for more information.



JUMBO-SIZED MEAL

An elephant alone may eat up to 175 pounds of food—hay, fruits, and vegetables—each day!

ANIMAL EVENTS AT THE NATIONAL ZOO

(Daily unless otherwise noted.)

10:30 a.m. Marabou Stork Feeding
Outside yard, behind the Bird House

Elephant Foot Care
Outside the Elephant House
(inside in inclement weather)

11:00 a.m. Giant Panda Feeding
Outside yard at Panda House

Meet-a-Kiwi (Monday/Wednesday/Friday)
Outside yard at Bird House
(inside in inclement weather)

Aldabra Tortoise Feeding
Outside Reptile Discovery Center;
from mid-May through June

Orang utans leave Great Ape House for Think Tank via the O-line cableway. This is the best time to see them, though they come and go from 11 a.m. to 2 p.m.

11:15 a.m. Meet a Flamingo Keeper (Monday through Friday)
In front of flamingo exhibit

11:30 a.m. Elephant Training
Outside the Elephant House
(inside in inclement weather)

Sea Lion Training
Sea Lion Pool

1:00 p.m. Brown Pelican Feeding
Wetlands Exhibit

SUNSET SERENADES

Top off your day at the Zoo with a mellow evening of music! Every Thursday from June 26 through August 7, you can sit back on Lion/Tiger Hill and enjoy a free concert featuring music from Celtic folk to Jamaican reggae and rock 'n' roll. The outdoor concerts run from 6:30 to 8:00 p.m. unless interrupted by rain, and the Mane Restaurant is open for refreshments. Ask at any Information Station to find out who's on the schedule, or call 202.673.4717 for information.

Keepers play a variety of roles in Amazonia, from animal handler to teacher and tour guide. They answer questions about plants and animals, point out shy or camouflaged animals to visitors, and guide children and adults through Dr. Brasil's research station. "We don't have labels on plants; we have people out there to talk about

them," says Rushin. "That was a choice." In addition to keepers, Amazonia also has specially trained FONZ interpretive volunteers who roam the exhibit in order to help visitors see the often hidden creatures.

Keepers work with the public most at Dr. Brasil's field station, where visitors often raise questions while they come face to face with piranhas, red-footed tortoises, and dart-poison frogs.

Keepers find that their role as educators is necessary in Amazonia—though the exhibit is filled with information, very little of it is obvious to the untrained eye. "Since this is a habitat exhibit, to maximize your view of

continues on page 3



SILVER ANNIVERSARY

The Zoo is celebrating the 25th anniversary of the arrival of Hsing-Hsing, our male giant panda, at the National Zoo. Along with Ling-Ling, who died in 1992, Hsing-Hsing was a gift from the People's Republic of China.



animals you need to look for them a little harder. If you're used to doing birding outdoors, you'll enjoy it," says keeper Ed Smith. "Otherwise you

might find it frustrating, because the sloth might be sleeping under some leaves and then you don't see anything. So, take your time."

Amazonia also comes equipped with detailed "field guides" hanging from railings; zoogoers can try to identify which of the twelve or so bird species—hummingbirds, honeycreepers, tanagers, sunbitterns, and red-crested cardinals—they see flitting through the foliage or streaking past.

Keepers enjoy their interaction with zoogoers, but they also cite working in a mixed-species exhibit as a major Amazonia attraction. "The nice thing about working with a mixed-species exhibit is you really do learn about all different types of plants and animals," says Ed Smith. And while every keeper has his or her own area of expertise—Rushin works primarily with fish, keeper Melanie Pyle primarily with plants, and so on—everyone eventually learns to do everybody else's job. "It's like being a jack-of-all-trades," notes Supervisor Vince Rico.

All seven Amazonia staff have volunteered or worked in other exhibits before and recognize how different Amazonia is. Amazonia is the most species-rich exhibit at the Zoo, housing not only mammals, birds, and reptiles, but more than 2,600 fish. With more than 350 plant species, the Amazonia exhibit also houses the Zoo's greatest botanical collection.

By working largely with plants and fish and filtration devices, Amazonia keepers don't always have the same personal connection with the animals they might have working with elephants or other large mammals. Amazonia's Goeldi's and titi monkeys have managed to make some personal

continues on page 8

EXHIBIT ROUNDUP

LION/TIGER EXHIBIT

Divided into three hilly enclosures, this exhibit houses the Zoo's Bengal and Sumatran tigers and one female and two male lions. Cats are rotated on and off the exhibit, so one day you might see Bengal tigers with regular orange and black coloring, while the next day, the white tiger might be out.

AMAZONIA

More than 350 plant species thrive in this indoor rainforest. Scan the shadows and dripping foliage for Goeldi's and titi monkeys, a sloth, tropical tanagers and honeycreepers, and listen for the high-pitched calls of dart-poison frogs. The Amazonia Science Gallery, the Zoo's newest exhibit, is attached to the rainforest. Here visitors can explore how science is constantly honing our views of the natural world, and meet scientists who are working in the Gallery's labs.

REPTILE DISCOVERY CENTER

Voted outstanding brick building in the eastern United States in 1931, this is the home of a variety of lizards, snakes, turtles, and crocodiles, some amphibians, and interactive activities that let kids understand why reptiles and amphibians do the things they do. Look around the back of the building for Komodo dragons, alligators, and other crocodiles, as well as the entrance to the Invertebrate Exhibit.

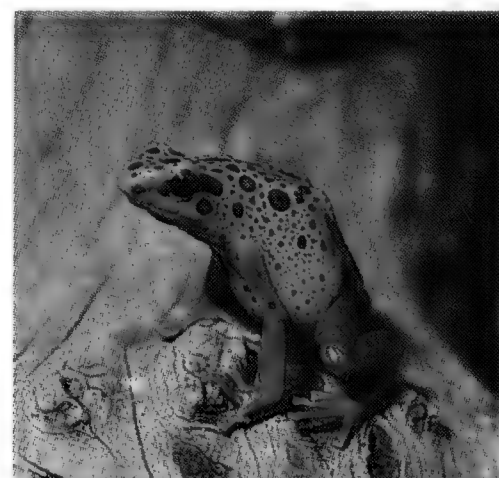
INVERTEBRATE EXHIBIT

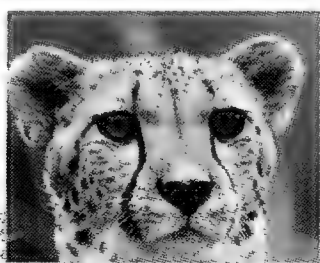
From one-celled organisms to intelligent octopuses, this exhibit displays greater animal diversity than any other Zoo exhibit. Here you can spy on a leaf-cutter ant colony, examine tiny animals in samples of local soil, check out live corals and sea stars, and get close-up views of many other odd-looking creatures. At the end of the exhibit is Pollinarium, an exhibit on plants and the animals that pollinate them. Walk indoors amid flowers that bloom year round and watch the butterflies and hummingbirds that visit them. You can also view the year-round activities of a hive of honeybees, visible behind

continues on page 6

SMALL BUT DEADLY

Tiny dart-poison frogs produce some of the deadliest poisons known. Just 0.00000007 ounces of skin secretion from the most poisonous of these frogs is enough to kill you. Look for dart-poison frogs in the Reptile Discovery Center, but don't touch!

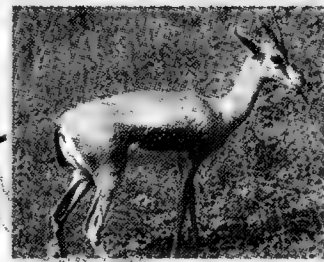




Cheetah



Grevy's Zebra



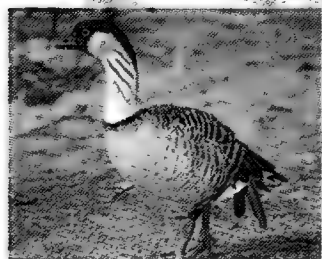
Speke's Gazelle



Giant Panda



Red Wolf



Nene



Greater
One-horned
Asian Rhino



Golden Lion
Tamarin



Spectacled Bear

RARE FINDS

Some of the world's rarest animals live at the Zoo. Here's a map showing where you can find them and an estimate of how many are left in the wild. For comparison, we show one of the world's most abundant species—also seen at the Zoo!

1.	Red Wolf	50-100*
2.	Rare Island Birds	
	Bali Myna	100-200
	Guam Rail	extinct in wild
	Nene	350
3.	Black-footed Ferret	<500*
4.	Sumatran Tiger	500
5.	Golden Lion Tamarin	700**
6.	Giant Panda	1,000
7.	Speke's Gazelle	1,000
8.	Cuban Crocodile	2,000
9.	Greater One-horned Asian Rhinoceros	2,000
10.	Komodo Dragon	4,000-5,000
11.	Grevy's Zebra	6,000
12.	Cheetah	9,000-12,000
13.	Spectacled Bear	10,000
14.	Orang utan	5,000-10,000
15.	Human	5,700,000,000

*Was extinct in the wild; these are reintroduced animals.

**Includes wild and reintroduced animals.

THE ZOO'S HIDDEN TREASURES

Tips for finding Zoo animals and plants off the beaten path:



Humans

BEHIND THE BIRD HOUSE

Follow the path around the left side of the Bird House to see some of the world's largest birds: five crane species, cassowaries, kori bustards, rheas, goliath herons, and others.

GOLDEN LION TAMARIN TRAINING GROUND

Along a quiet path through the woods, between the Elephant House and Beaver Valley, summer visitors will find a pair of golden lion tamarins roaming free. Volunteers carefully watch these primates, which are trainees for release back into their Brazilian dry forest habitat.

FOREST CARNIVORES

Between the prairie dogs and the police station, a winding path takes you to enclosures housing the bobcat, a weasel-like cat called the jaguarundi, a western African mongoose called the cusimanse, and raccoon-like coatis.

SERVALS AND LEOPARD

Most visitors check out Lion/Tiger Hill, but not all take the short path adjacent to this exhibit to see the lanky servals and the leopard, which live in enclosures amid bamboo and other dense foliage.

DEER YARDS

Troop up the path behind the bongo yard for a great view looking down at these striped antelope. The path leads to one of the quieter corners of the Zoo, where shy Burmese brow-antlered deer, also known as Eld's deer, live. You can also enter the back of the Outdoor Flight Exhibit from this path and walk through this exhibit to the Bird House.

THEME GARDENS

The Zoo's theme gardens highlight plants that are important to humans and animals alike. These include: the American Indian Heritage Garden (beside the Small Mammal House); the African American Heritage Garden (beside Gibbon Ridge on the Great Meadow); and a butterfly garden (behind the Reptile House).

SPEKE'S GAZELLE

Easily missed by visitors entering the Zoo from the top or bottom of the hill, a path leads past one of the Zoo's newest mammal residents, the rare Speke's gazelle from northeast Africa.

BAT CAVE

Indoors at the Lion/Tiger Exhibit, you can see two kinds of bat and blind cave fish.



HEY, BUFFALO BILL

In 1904, Buffalo Bill Cody left a small herd of buffalo—now more accurately called bison—at the National Zoo.



ZOO BABIES

Spring and summer is the best time for Zoo babies. Among the expected arrivals for 1997 are a baby lowland gorilla in April or May, a baby giraffe during the summer, and a baby Speke's gazelle. Check the Reptile Discovery Center and Small Mammal House, where babies are almost always on exhibit. Also, pygmy marmosets (Small Mammal House and Great Ape House) and prairie dogs (near Mane Restaurant) often have babies in late spring and summer.

panes of clear acrylic. Open Wednesday through Sunday.

CHEETAH CONSERVATION STATION

A total of six cheetahs live at this exhibit, but they do not stay in the same place. They are regularly rotated from enclosure to enclosure so they get a change of scenery. The grassy enclosures simulate the African plains, and the cheetahs often use the hilly vantage points to look down on their keepers. Females live alone, while males live in two-cat coalitions as they do in the wild.

BIRD HOUSE/WETLANDS EXHIBIT

The Wetlands Exhibit outside the Bird House is home to representatives of more than one-third of the world's duck species, and many other kinds of water birds. Wild Cooper's and red-shouldered hawks occasionally buzz low over the ducks. Inside the Bird House is a simulated jungle with free-flying tropical birds. Beside the Bird House is the impressive Outdoor Flight Exhibit, home to birds of the woods and waters of the Americas.

GREAT APE HOUSE

Be sure to check the large ficus trees just inside the front door for free-ranging pygmy marmosets. From the Great Ape House, orang utans climb the green tower and "commute" to Think Tank. Follow the path behind the Great Ape House to see the lowland gorilla family relaxing in their outdoor yard.

THINK TANK

One of the newest Zoo exhibits, Think Tank explores animal intelligence and behavior. Watch the fascinating interactions between members of a Sulawesi crested macaque group and between Zoo staff and the orang utans that visit the exhibit via the O-line cableway.

SMALL MAMMAL HOUSE

From brightly colored Prevost's squirrels to bushbabies and sluggish sloths, the Small Mammal House is full of surprises. Birds, reptiles, and mammals live side by side in a few of the building's exhibits. Outside, a cactus garden adorns the side of the building facing the Great Ape House.

ELEPHANT HOUSE

When this building first opened in October 1939, it housed four giraffes, a black rhino, Asian and African elephants, and Nile and pygmy hippos, as well as Malayan tapirs, huge wild cattle called gaur, and Cape buffalo. Now,
continues on page 7

animals enjoy larger enclosures, and golden-headed lion tamarins climb through the planters and across the ledges above the pygmy hippos' indoor exhibit.

BEAVER VALLEY

Watch for a variety of wild songbirds around the waterfall and a surprise dinosaur in this well-wooded area, where the Zoo's beavers, white-tailed deer, and red wolves live. Travel farther down the trail and you will come to the gray seals and California sea lions, the bears, and finally the Amazonia Exhibit and Science Gallery.



THE BIOPARK: A WILD PLACE

One goal of the Zoo as a "biopark" is to provide habitat for wild animals and a good environment in which people can learn about the natural world. The Zoo has been carefully landscaped to provide food and shelter for a variety of urban wildlife. Instead of many large grassy areas, you will find ponds, flowers, berry-bearing bushes, and mixed groves of trees. You will undoubtedly see some of the Zoo's wild residents: tiger swallowtails and monarchs visiting rusty-purplish joe-pye-weed blossoms, canary-yellow goldfinches prying seeds from purple coneflowers, scampering chipmunks and gray squirrels of both gray and black color phases, wild wood ducks mingling with the Zoo's ducks at Wetlands, and a variety of hawks and woodpeckers. In spring and summer, hundreds of black-crowned night-herons nest in the trees around the Bird House and Wetlands Exhibit. White-tailed deer regularly wander into the Zoo in the early hours from adjacent Rock Creek Park.

STRANGE NAMES GOT YOU STUMPED? HERE'S HELP!

(Illustrations are not to scale.)



caiman: South American crocodile cousin. (Behind Reptile Discovery Center.)



gharial: Thin-snouted, fish-eating crocodilians from India and Bangladesh. (Reptile Discovery Center.)



mata mata: A large, bizarre-looking South American turtle. (Reptile Discovery Center.)



bongo: A large striped African antelope with long, curved horns. (Near Visitor Center; shares exhibit with Marabou storks.)



hammerkop: Wedge-shaped "hammer head" gives this African wading bird its name. (Bird House.)



garganey: Migratory Old World duck. (Wetlands Exhibit.)



seriema: Tall long-legged bird of southern South America. (Behind Bird House.)



kori bustard: An African grassland bird, one of the heaviest flying birds. (Behind Bird House.)



i'iwi: A small scarlet, black, and white forest bird from Hawaii. (Bird House.)



nene: Hawaii's state bird, a native goose. (Wetlands Exhibit.)



screamer: Primitive duck relative, native to South America. (Wetlands Exhibit.)



smew: Black-and-white Eurasian duck. (Wetlands Exhibit.)



tapir: A burly, long-nosed relative of horses and rhinos, native to Malaysia. (Across from Visitor Center; shares exhibit with muntjac.)



muntjac: A small, primitive deer, native to Asia, also called a barking deer.



cusimanse: A kind of mongoose from West Africa. (Small Mammal House.)



mara: Maras look a bit like rabbits but in fact are large South American rodents. (Near Gibbon Ridge.)



kowari: About the size of an eastern chipmunk, these carnivorous marsupials with long tails are from Australia. (Small Mammal House.)



saki: A long-haired, long-tailed South American monkey with white to reddish markings on its face. (Amazonia.)



Jan Dusing

MINIATURE MONKEYS

The world's smallest primates, South America's pygmy marmosets would fit comfortably in your hand and their babies can cling to just one finger. Look for these tiny monkeys in the Great Ape House.

WORD FIND

L	B	O	N	G	O	D	P	A	R	H	Y
X	S	G	A	R	G	A	N	E	Y	L	K
A	M	E	I	R	E	S	T	A	Z	S	O
T	H	C	G	J	L	A	S	F	B	C	R
A	A	U	W	M	E	K	O	W	A	R	I
M	M	S	M	G	R	I	I	W	I	E	B
A	M	I	U	H	H	K	Q	U	D	A	U
T	E	M	N	A	M	I	A	C	P	M	S
A	R	A	T	R	O	W	L	S	A	E	T
M	K	N	J	I	G	E	H	M	A	R	A
Y	O	S	A	A	V	M	T	A	P	I	R
C	P	E	C	L	O	S	N	E	N	E	D

Find these animals with strange names:

BONGO	I'IWI	NENE
CAIMAN	KORI BUSTARD	SAKI
CUSIMANSE	KOWARI	SCREAMER
GARGANEY	MARA	SERIEMA
GHARIAL	MATA MATA	SMEW
HAMMERKOP	MUNTJAC	TAPIR

impressions, however, as has the exhibit's scarlet macaw, Mac. "He can say hello in maybe twenty different subtexts," marvels Smith. "He has these begging, pleading hellos, he does a query hello—it's the same thing we do when we walk into a house."

Although they work hard out in the exhibit, Amazonia keepers find that most of the work is, in fact, behind the scenes. "Visitors always ask if Amazonia is a 'balanced environment,'" says Ed Smith. "If it's at all balanced, that's only because we keep tweaking it." Keepers not only spend a large portion of their time cleaning tanks and filtering out the fish's water, they also spend two hours every morning hosing off Amazonia's plants to rid them of insect pests, and they regularly prune tree limbs to keep the plants from overcrowding.

Careful attention is lavished upon the foliage because pesticides and herbicides, which would likely harm the animals, cannot be used. Keepers also monitor the animals' eating patterns and behavior, making sure to keep the entire Amazonia staff up to date by leaving notes about individual animals on a large dry-erase board.



Amazonia keepers may be out in the open, right there for visitors to watch and question and learn from, but they are also there in the background, doing what keepers always do—making sure everything runs smoothly and seamlessly, making it seem as if there were no planning at all, so that both Zoo animals and Zoo visitors can fully enjoy Amazonia.

—Debra Solomon

Photos for this issue of Do The Zoo '97 by Jessie Cohen/NZP.



Courtesy of the San Heritage Centre, University of the Witwatersrand.

Once the sole human inhabitants of southern Africa, San Bushmen shared their dusty home with varied wildlife, including herds of rhebok, like the ones painted here.

metric shapes and signs mark the rock face: lines, dots, zigzags, wedges, triangular shapes, and hand prints. Are these marks mere slips of the hand, or something more? The range of explanations for these enigmatic forms—a primitive form of writing, calendar markings, drawings of genitalia—conveys just how difficult it is for us to make sense of cave art. One common explanation is that these forms acted as a magical means of controlling animals. In this view, lines drawn to look like traps may have been used to ensure success in hunting. The paint-dipped hand prints, not unlike a child's finger-painting, also may have served some sort of magical purpose or acted as an unforgeable signature.

Human figures are extremely rare in all Upper Paleolithic cave art, and no one is sure why artists abstained from self-representation. Perhaps, if the art was inherently magic, the artist was wary of turning a spell on himself. While human figures are scarce, human features were sometimes rendered on the rock face as part of the

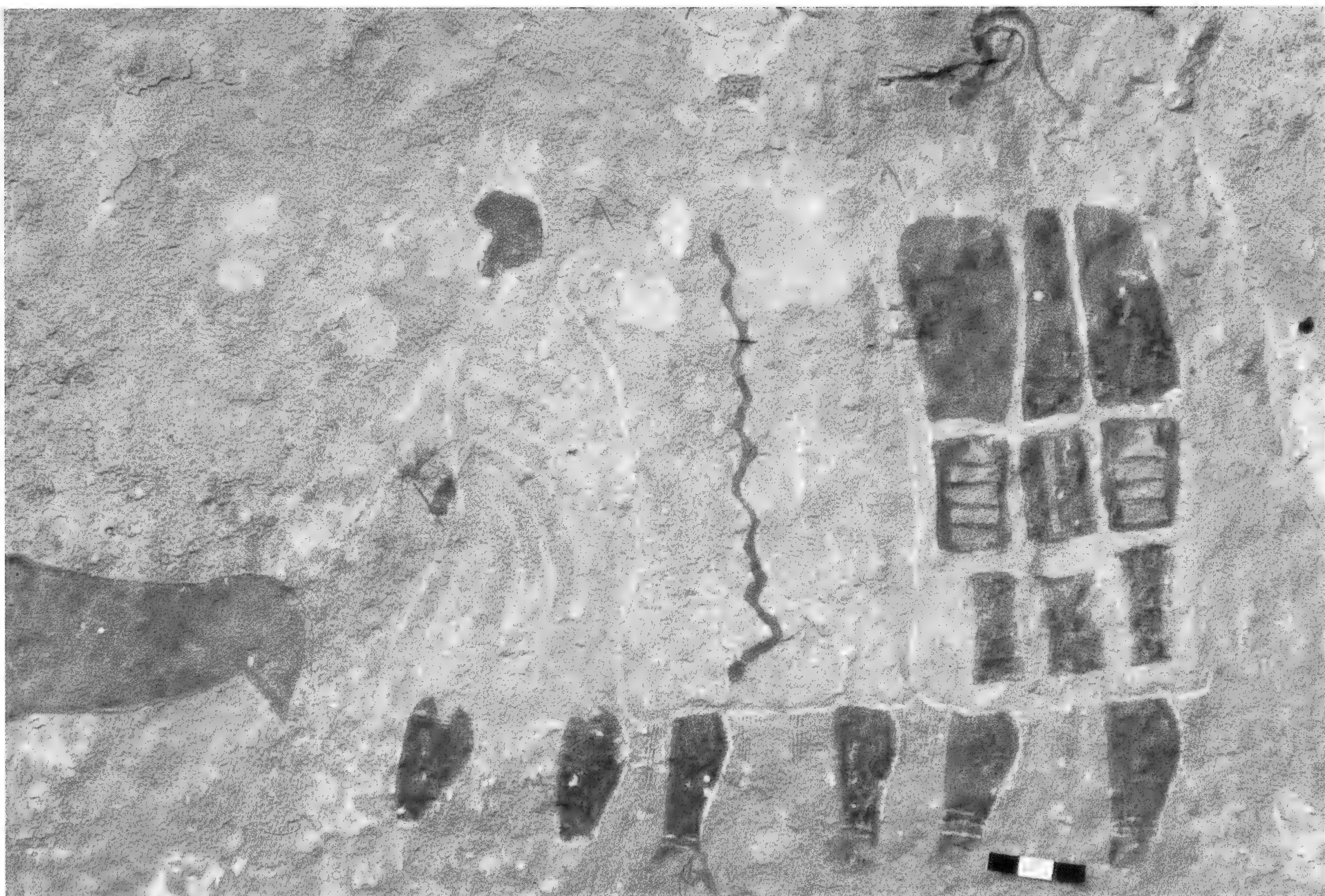
anatomy of half-man, half-beast figures. These odd hybrids are loosely analogous to the centaurs of classical mythology, with human postures and animal attributes such as hooves or tails. The antlered Sorcerer from a cave in Trois Freres in France is a fascinating example of a hybrid subject. The monstrous shape has the antlers of a reindeer, the beard of a bison or a man, the tail of a horse, and the paws of a bear. At one moment it looks like a costumed ritual dancer; at another, a hunter stalking in disguise. Many researchers have speculated that these semi-human creatures are magicians or sorcerers (hence the name of the figure at Trois Freres) or even gods from ancient ceremonies.

★ ★ ★ ★ ★

We are used to our art having an order, from the eye-level placement of paintings in a gallery to the uniformed guards in a museum. Yet unlike the structured way in which we view art today, the animals on cavern walls appear to be without any

semblance of organization and are certainly not framed. They seem arbitrarily, almost chaotically, placed, layers of scattered, superimposed animals running over and into each other in a stampede of horns and hooves. While it has been suggested that the animals were arranged in a definite order meant to convey the artist's preference for certain species, the strata may also indicate later additions to the walls in the days before paint remover or whitewash. And considering the conditions in which these artists worked—complete darkness illuminated in only small patches by primitive stone lamps, compared with the enveloping glow of today's ubiquitous artificial light—it would have been very difficult for a Paleolithic artist to precisely align images and step back to view his "canvas."

However much we do not understand about the Cro-Magnon, this much is certain: The Stone Age world was defined by animals. Paleolithic man hunted animals, depended on them to sustain life, and used them as the primary subject of his



Courtesy of the San Heritage Centre, University of the Witwatersrand.

Without academically trained priests, doctors, or social workers, the San relied on shamans for guidance. Shown here are hooved shamanic characters, each with its own distinctive head type.

art. The artist took a great deal of time delineating his animal subjects; even viewers of cave art today, 30,000 years later, rarely need to question the species, sex, or age. (Identification is facilitated further by the fact that although the animals are almost always portrayed in profile, certain features such as horns, antlers, or hooves are drawn in three-quarter perspective for a complete transcription.) While an intimate knowledge of animal species and anatomy is not surprising in a primeval hunting culture, it has been suggested that this accuracy resulted from artists' using dead animals as models. Limp, relaxed bodies; tight, close-fitting legs (which seem incongruous on a standing beast); and hanging tongues are possible evidence of the use of these "still-life" prototypes. Dead in a cave or alive in a memory, animal models allowed the artists to create a realistic, even breathtaking, Paleolithic zoo on cave walls.

Much of the interpretation of cave art involves the mystical and ceremonial significance of animals to early man. No one

can be sure what role these images played in late Stone Age hunting society, but it is probable that they were somehow connected to ritual. Through visual representation, hunter-artists may have tried to animate and then control the animals around them. Arrow marks on the rock near some images suggest a killing ritual in which artists tried to slay the animals voodoo-like far from the scene of the hunt. In the same way that the artists may have tried to command animal death, they may also have endeavored to govern animal life. The depiction of noticeably pregnant animals, such as the pregnant cow from Lascaux, suggests that artists tried to will the propagation of certain species to ensure a steady food supply. If Cro-Magnons did imbue animals with some supernatural meaning, recent research in South Africa may tell us even more about the mysticism involved in creating this art.

Unlike the spelunking gymnastics required to reach the muraled chambers of Lascaux

and Chauvet, the prehistoric rock paintings in southern Africa are located in accessible rock shelters of mountain ranges. Engravings are even easier to spot: They are pecked or incised on innumerable boulders and rocks across the plains. While finding the art may be as easy as taking a leisurely walk, dating the paintings and engravings is far more difficult. The lack of organic matter in southern African rock art makes radiocarbon dating virtually impossible. Sometimes, if a portion of a painting has dropped from the walls and ceilings of shelters into an archaeological deposit, the charcoal in the deposit can be given a date. Although this technique says more about when the piece fell into the deposit than when it was actually created, it nevertheless has been important in providing the few available dates for southern African rock art. The method was used to date a piece of rock art in southern Namibia to approximately 27,000 BP, placing this oldest recorded San art at roughly the same time as western European Upper Paleolithic art.



Courtesy of the San Heritage Centre, University of the Witwatersrand.

A hallucinatory monster dashes across a wall in KwaZulu-Natal Drakensberg.

The San people are responsible for the majority of rock art in southern Africa. Ancient hunter-gatherers, the San Bushmen were sole inhabitants of southern Africa until approximately two thousand years ago, when other farmers migrated into the region. Today they are found only in the Kalahari, a desert region that includes parts of Botswana and Namibia.

Although the San palette was not unlike that of the Cro-Magnon European artist, San art was originally interpreted as somewhat trite, a sort of visual diary of quotidian events: we hunted, we gathered, and so on. However, South African archaeologist David Lewis-Williams, director of the San Heritage Centre (Rock Art Research Unit) at the University of Witwatersrand, suggests that San art is far more complex; in fact, his work ultimately calls into question what we think of not only southern African art, but *all* Upper Paleolithic art.

Especially for people with no written language or institutionalized religion, intimate rituals and symbolism were integral

to San life. Without academically trained priests, doctors, or social workers, the San as in many cultures relied on shamans to play the roles of all three. The shaman is, above all else, an advocate for his people, sent to other worlds by means of a trance to mediate the will of the spirits for control of rain, sickness, game, and fertility. The process of actually getting to that other world often begins with music: The pounding rhythms of ritual songs, crackling fires, clapping hands, and dancing feet are often the only catalyst a shaman needs to enter deep concentration. Once intensely focused, the shaman feels an energy “boil” painfully in his stomach. Sweating and trembling, he bends over, head dropped, blood dripping from his nose. The energy from his abdomen then rises up his spine and “explodes” in his head. The shaman enters a trance, a world as real and tangible to him as the dancers, the music, and the fire.

Recent research has shown that much San art was associated with similar reported shamanic experiences. Lewis-

Williams came to this conclusion through his study of various stages of visual hallucinations, from the first stage characterized by the appearance of geometric forms such as grids, dots, zigzags, spirals, and curves to the final stages, where one sees and experiences things invisible to those in a normal state of consciousness, not unlike a waking dream. These stages are important because they are later translated by shamans onto the rock face as *art*. The zigzags, lines, and dots (perhaps better known to us not as a stage of hallucination, but as signs of a painful migraine or a dizzy spell) that appear in the first part of a trance are seen in rock engravings and paintings in southern Africa and are quite possibly emblems of a shamanic vision.

In the final stages of hallucination, some shamans have reported having out-of-body experiences. While in a trance, shamans may call up the soul of and then become a potent animal, such as a large African antelope called the eland, in order to negotiate with the spirits. Like the



Courtesy of the San Heritage Centre, University of the Witwatersrand.

This representation of a San painting shows shamans apprehending a “rain-animal.” The line of crosses represents bees, creatures with supernatural power, entering the rain-animal’s hump.

geometric shapes, records of this trance-induced metamorphosis—images of shamans with antelope heads and hooves frequently appear on rock walls across southern Africa. Even more convincing, the figures are sometimes painted with bleeding noses and bent heads, suggestive of the bleeding that shamans themselves experience as they enter a trance.

Lewis-Williams’ model may work for southern African art, but can it be applied to Paleolithic images in western Europe? Is it possible that the paintings and engravings in caves like Lascaux and Chauvet were also made by shamans? The lines and zigzags appearing in the first stages of hallucination are prevalent in western European caves, and are just as likely products of a trance as they are calendar markings or drawings of genitalia. The metamorphosed creatures typical of the late stage of shamanic hallucinations are also identifiable in western European cave art such as the antlered Sorcerer from Trois Frères in France. (Whereas a San shaman might hallucinate an African

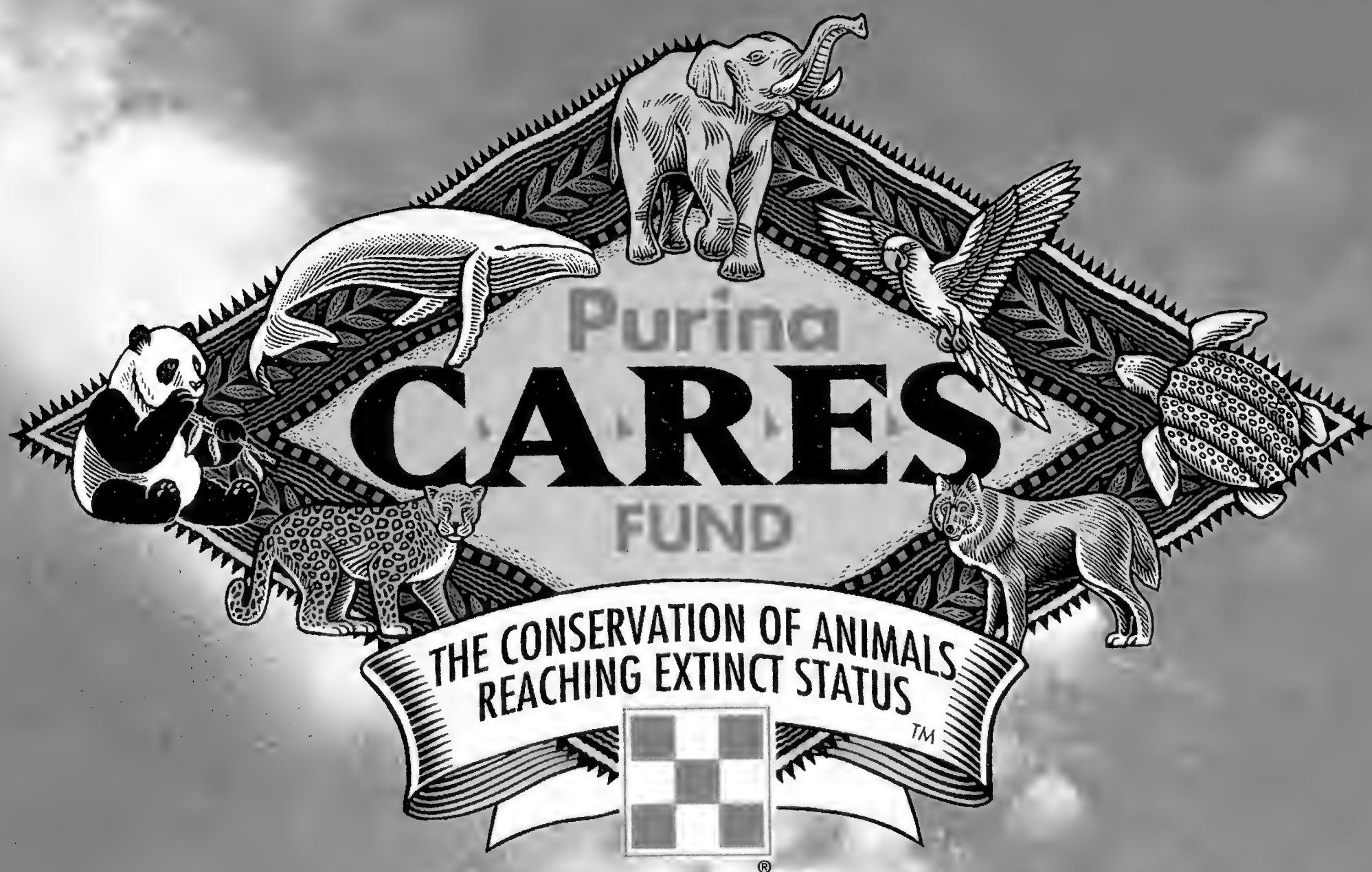
beast such as an eland, a European shaman might hallucinate a creature more familiar to him, such as a deer, horse, or bison.) Like their southern African counterparts, Upper Paleolithic men in Europe also may have traveled to a spirit world inhabited by animals and recorded these visions on cave walls. Once dismissed as the art of a primitive culture that could not distinguish between man and beast, in the context of shamanism the hybrid images are seen as the result of a late stage of hallucination.

This new theory suggests that hallucinations influenced much of the art of the Upper Paleolithic era in every way, from inspiration and subject matter to style and position. Even the rock face apparently acted as much more than just a canvas: Lewis-Williams found some of the strongest evidence for the shamanic interpretation of San art in images that appear to emerge from cracks in the rock, suggesting that the jagged walls of rock shelters were like veils between the human and spirit worlds.

In 1998, a team of scientists will begin a formal investigation of Chauvet. With each half-life of carbon measured and Paleolithic beast identified, the scientists will begin to piece together the history of the cave and the Cro-Magnon artists for whom it was so crucial. Despite what we do not know and, ultimately, cannot know about our ancient past, one reason to continue studying the cave galleries of the world is found in theories like those proposed in southern Africa. Looking at Upper Paleolithic art in Western Europe and in southern Africa through the transfixed eyes of a shaman gives us a new understanding of the relationship between cave art and prehistoric civilization, and of our relationship to the man in the deer-skin sheath, slowly crawling through the dark tunnel to paint.

Former FONZ intern Janeen Renaghan is a freelance writer living in Washington, D.C. She graduated from Brown University in 1995 with a B.A. in English.

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"If you want to know something essential about adventurers Osa and Martin Johnson, look at their photographs. Startled giraffes lumbering across a treeless plain. A lion standing motionless and serene in tall grasses. A mother cuddling her child. The pictures are rich and insightful, images that are at once foreign and familiar. Shot 60 and 70 years ago by a Kansas couple documenting remote and exotic scenes, the photos...evoke universal themes and human values."

—Mary Lou Nolan, Travel Editor, *Kansas City Star*

People remember Martin and Osa Johnson most for their movies of Africa, Borneo, and the South Seas. Although this work may represent an outmoded genre of travel-adventure films, the Johnsons' legacy—remaining in thousands of photographs, hundreds of cans of motion picture film footage, and numerous books and articles—remains an invaluable contribution to our knowledge of some of the world's most beautiful, and mysterious, places.

Martin Johnson described himself as a "Motion Picture Explorer." With his wife Osa, a pioneer photographer/filmmaker in her own right, they exposed about one million feet of film. These days, the Johnsons' achievements are once again in the limelight, thanks in good part to the 1997 republication of Osa Johnson's 1940 bestseller *I Married Adventure*, the printing of a comprehensive Johnson biography entitled *They Married Adventure: The Wandering Lives of Martin & Osa Johnson* (1992), and the release of the film *Simba* (1928) on video and laserdisc.

Much has changed since the Johnsons' heyday in the first half of the century, but the wildlife and cultures they filmed are frozen in time. Despite their primitive equipment and initial inexperience, their films and photos continue to be of great value to filmmakers, historians, botanists, zoologists, and anthropologists.

By current standards, the Johnsons' films are technically inferior to the nature shows we watch on television. Today, improved sound equipment and cameras with zoom and telephoto lenses make filming wildlife much simpler and safer. With that in mind, it is easier to appreciate the mastery and difficulty of the Johnsons' work. Martin Johnson's ability to photograph and develop his own film in the field made him a master at working in primitive conditions.

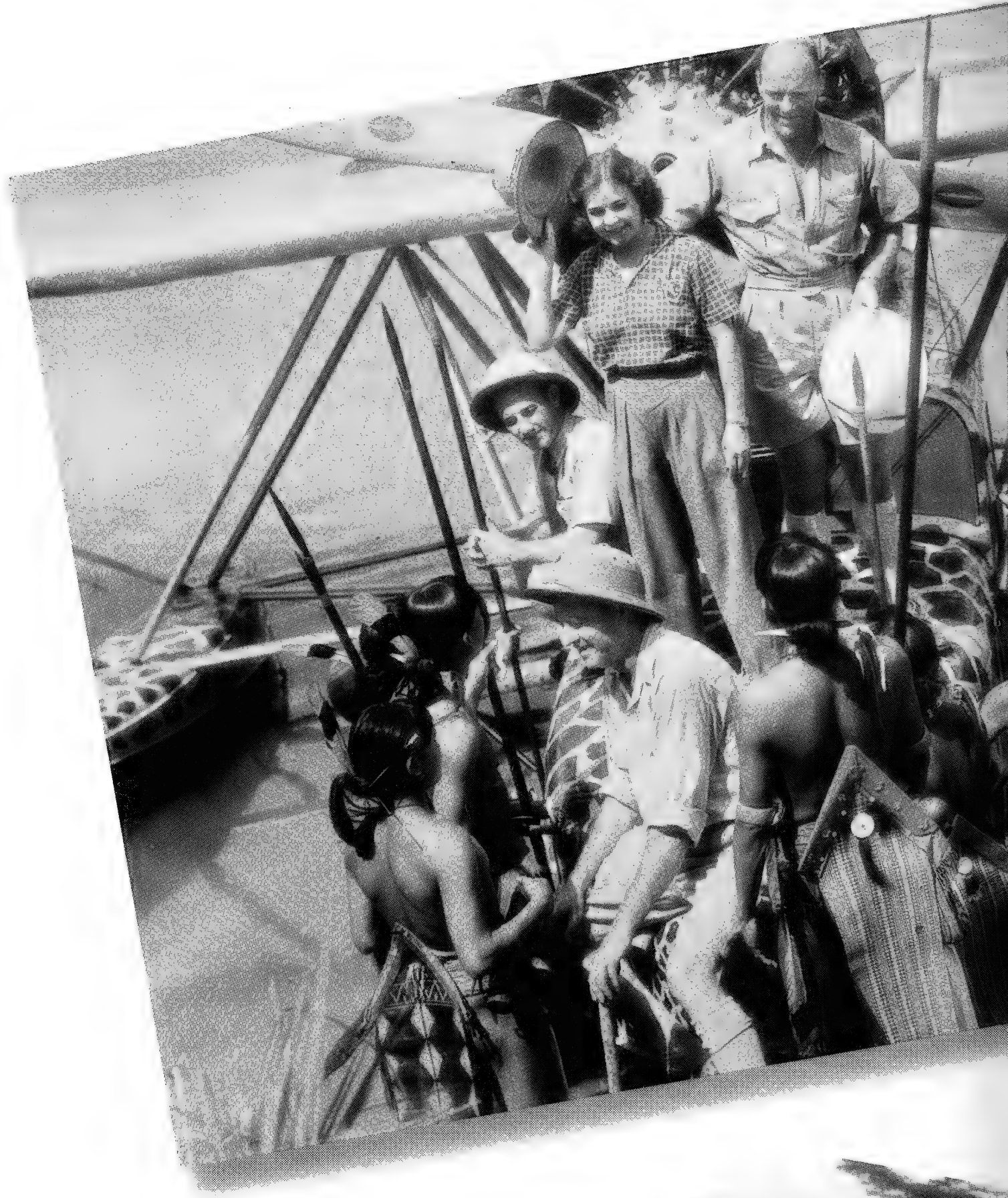
The word "closeup" for the Johnsons was certainly an accurate description. To get close enough to take clear shots of their subjects, they often found themselves in dangerous situations when approaching wild animals on foot or by open car. This sometimes meant getting as close as eight feet from an elephant, or 12 feet from a rhino. Also, in their day, chance encounters with large animals occurred more frequently: Wildlife populations were far more robust then, and human populations smaller.

Martin tried to distance himself from other pioneer photographers and explorers of the time, such as Frank Buck, who mostly filmed captive animals and fight sequences using various improbable antagonists. Martin wrote in his book *Camera Trails in Africa* (1924):

"Films of remote countries, primitive people, and wild animals are usually little more than moving-picture-books. They show a series of scenes, for the most part unrelated and assembled with an eye to pleasing the commercial producer. The titles are usually sensational or inaccurate or both. The pictures themselves are often "staged" for the camera and are no more representative of the

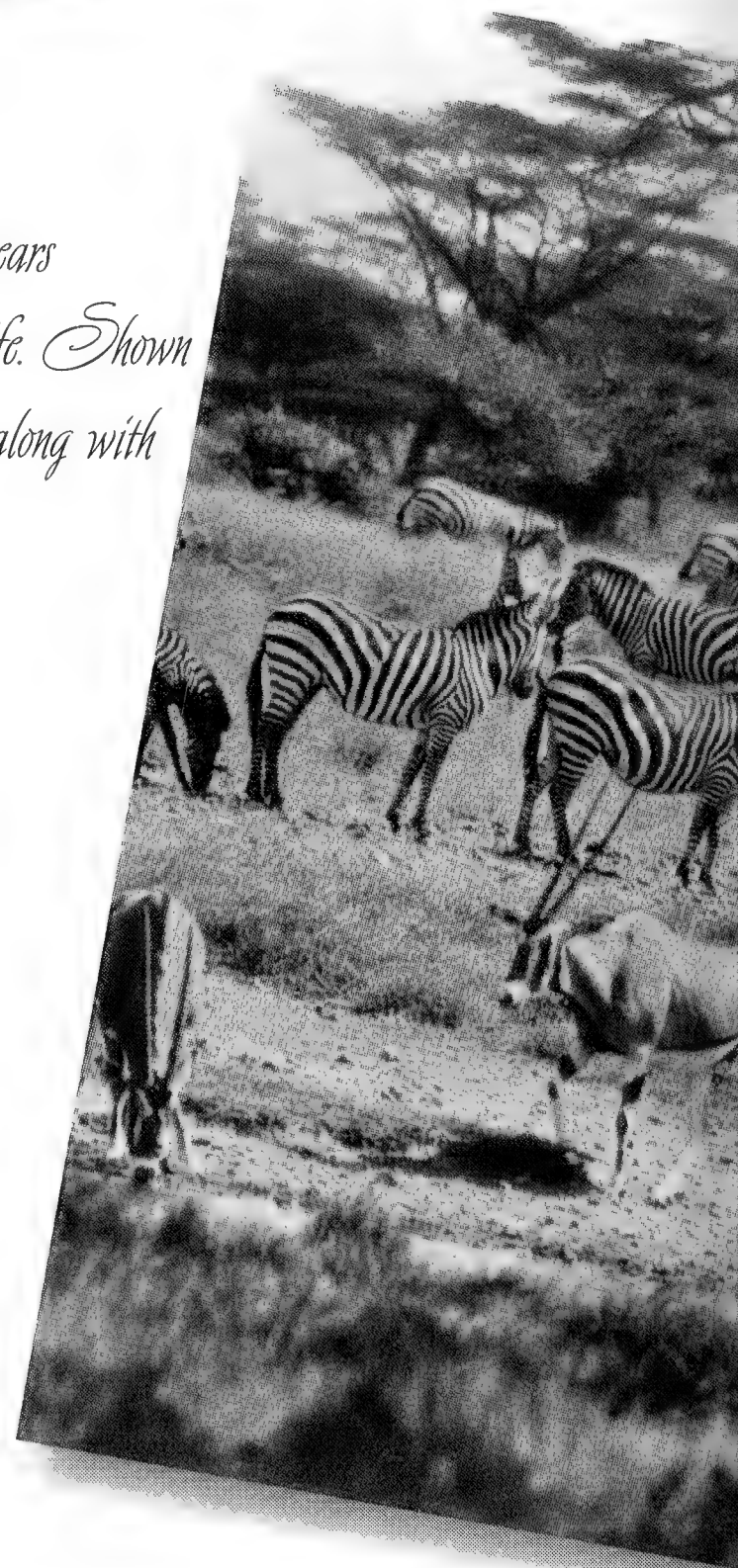
THEIR MARRI

Conrad G. Froehlich




Martin and Osa Johnson spent years photographing Africa's teeming wildlife. Shown here are common and Grevy's zebra, along with beisa oryx, gathered at a water hole.

—Martin & Osa Johnson Safari Museum.



D ADVENTURE



The Johnsons used one of their amphibious planes to travel around British North Borneo (now Sabah) during their final trip together in 1935.

— Martin & Osa Johnson Safari Museum.

actual lives of the savage men or wild animals than they would be if taken in Hollywood. I want to take a picture of Africa that will be different. It will be the whole story of a country, its people, and its animals, slowly unrolling against a background of magnificent scenery—wide grassy plains dotted with sparse mimosa groves, peaceful wooded hills, rugged, barren mountain ranges, rich forests, desolate lava fields, swift rivers, broad sandy beaches...it will show the animals, not hunted and afraid, but natural and unaware, untroubled by man.”

Investors supported the Johnson's early expeditions. But as their fame grew, Martin and Osa largely funded their later trips through corporate sponsors and proceeds from their lectures, movies, books, and articles. Martin liked to say they invested in themselves.

The Kansas Connection

The Johnson story begins far from the exotic tropics, in Kansas. Although born in Rockford, Illinois, in 1884, Martin spent his youth in the Kansas communities of Lincoln and Independence. His father, John Johnson, operated a combination book store and jewelry shop. Papa Johnson's dream of his son taking over the business was never realized, due in part to his purchase of an Eastman-Kodak franchise. Photography sparked the young Johnson's imagination, and with access to cameras, photographic supplies, and a darkroom, he became a roving photographer, taking penny pictures in southeast Kansas.

Martin's life took a dramatic turn in 1906. By this time, he had already caught the travel bug, having journeyed through the United States and Europe. When Martin found out that famed travelers and authors Jack and Charmian London (then aged 30 and 35, respectively) were building a ship to sail around the world, he wrote them an enthusiastic six-page letter. They responded by inviting Martin to join them as a cook. Martin's culinary skills left something to be desired, but the young man's photographic talents were not lost on the Londons. From 1907 to 1909, Martin sailed on the *Snark*, which the Londons had named after the Lewis Carroll poem.

Later in 1909, Jack London returned to the United States a very sick man, plagued by bouts of malaria, intestinal fistula, skin ulcers, and nutritional deficiencies. This ended the “around the world” trip in the South Seas. Martin returned to Independence, Kansas, with pictures, film, objects, and stories—props that soon became vital tools used in Martin's newly launched career as a travelogue lecturer. On his first tour, his programs rotated through five southeast Kansas towns from 1909 to 1910.

Osa and the South Seas

Born in Chanute, Kansas, in 1894, Osa Leighty led an ordinary settled life until she met Martin Johnson. She learned domestic skills from her mother and grandmother. Her father taught her to hunt, fish, and garden. And her aunt, Minnie Thomas, a cigar-smoking circus bareback rider, provided inspiration for the aspiring performer. Osa too entertained crowds, though she channeled her energy into more musical pursuits. An indifferent student, she far preferred singing at school functions to doing homework.

Martin and Osa were introduced by Osa's best friend Gail Perigo in 1910. Gail, who worked with Martin, recommended an arranged meeting between the two. Despite disliking Martin's lec-



tures, Osa agreed to the meeting. They were instantly attracted to each other. For Osa, Martin represented an acclaimed world traveler with similar Midwest values and manners. To Martin, Osa was attractive, charming, and adventuresome, with solid values—all he wanted in a wife. On May 15, about a month after meeting, they eloped and began a long journey together.

From 1910 to 1917, the Johnsons traveled the United States and Canada, presenting their lecture program “Martin E. Johnson’s Travelogues,” among other titles. They also spent several seasons on the vaudeville Orpheum Circuit, sharing bills with Will Rogers, W.C. Fields, and other notable vaudevillians of the time. While this work did not bring the Johnsons wide recognition, it helped them better understand the entertainment business and secure important contacts for backing their proposed travel and filming plans.

In 1917, Martin and Osa departed on a South Seas adventure. With the help of friends, they had raised enough money to finance a nine-month trip through the New Hebrides (Vanuatu) and Solomon Islands. The highlight of the trip was a brief, but harrowing, encounter with a tribe called the Big Nambas of northern Malekula. Martin’s determination to film their powerful chief Nihapat overrode caution and the Johnsons allowed themselves to be led into the hill forests of the island. Once the Johnsons met Nihapat, the Big Nambas barred them from leaving. To this day, no one knows if the tribe meant the Johnsons any harm. Nonetheless, the timely arrival of a British gunboat in a bay near the forest allowed them to escape with some exceptional footage and a great story of capture by “cannibals.” This adventure inspired the feature film *Cannibals of the South Seas* (1918).

The Johnsons returned to Malekula in 1919 to film the Big Nambas once again. However, this time they brought along 26 armed Melanesians. But what really disarmed the Big Nambas was watching themselves in *Cannibals of the South Seas*, a rather dramatic event that the Johnsons also filmed. This interaction was apparently the first time ethnographic filmmakers shared their work with their subjects and received their comments. Such screenings are common practice today. Martin and Osa capped off their trip in 1920 with visits to British North Borneo (now Sabah) and a sailing expedition up the coast of East Africa. After returning home, they released the features *Jungle Adventures* (1921) and *Headhunters of the South Seas* (1922).

On to Africa

Through their friendship with famous naturalist Carl Akeley, the Johnsons embarked on the African safaris for which they are best remembered. They developed a deep love for the land, people, and animals of East Africa, and worked hard to produce work that would convey their passion to their audiences. They soon became household names in America and enjoyed fame worldwide, their films and books translated into numerous languages.

Although products of their times—prone to using words like “savage” to describe a native islander and as likely to carry a gun as a camera—the Johnsons were progressive in their outlook on the animals they stalked. Many consider them among the earliest protectors of African wildlife, and claim they were instrumental in debunking the stereotype of Africa as the “Dark Continent.” They brought back images of a tranquil, beautiful land and inspired many to visit Africa. As Mark C. Reed, director of the



Martin Johnson considered this picture of a lioness at a zebra kill one of his best photos.

—Martin & Osa Johnson Safari Museum.



*The Johnsons talk with friend and supporter
George Eastman while on a trip to Africa.*

—Martin & Osa Johnson Safari Museum.



Sedgwick County Zoo in Wichita, Kansas, puts it, “...they were among the first to lay the foundation for all the interest we have now in conservation of animals and nature.”

The Johnson’s first Africa expedition, from 1921 to 1922, resulted in their feature film *Trailing Wild African Animals* (1923). The second and longest trip, from 1924 to 1927, was partially supported by the American Museum of Natural History. During this trip the Johnsons spent much of their time in northern Kenya at their home by a lake they dubbed Paradise, at Mount Marsabit. This provided them the opportunity to film migrating animals in a variety of situations. In January 1927, they attempted to climb Mount Kenya. After reaching 12,000 feet, the Johnsons and several others developed high fevers and had to be carried off the mountain. Osa, who fell unconscious, spent six weeks recovering from pneumonia and high-altitude illness. This period is covered in *Martin’s Safari* (1928) and *Osa’s Four Years in Paradise* (1941), and in their film *Simba* (1928).

A trip up the Nile with friend and supporter George Eastman (of Eastman-Kodak fame) highlighted the third African safari, from 1927 to 1928. One of the results of this trip was a hybrid film typical of the transition period between silent and sound movies. *Across the World with Mr. and Mrs. Johnson* (1930) included footage from all of their travels, bound together by Martin’s narrative.

From 1929 to 1931, the Johnsons spent a fourth tour in Africa. This time they ventured into the then Belgian Congo to film the Mbuti people of the Ituri Forest and the gorillas in the Alumbongo Hills. The 1932 feature movie *Congorilla* was in part a product of this trip, and was the first movie with sound authentically recorded in Africa. While backing from the Fox Film Corporation provided financial support, and the film was released by Fox, Martin complained of studio interference. Current critics of the Johnsons’ work often ignore this pressure, which led to some staged scenes and racial slurs sadly common in this period.

On their fifth African trip, from 1933 to 1934, the Johnsons took two Sikorsky amphibious planes, named “Osa’s Ark” and “The Spirit of Africa,” and flew the length of Africa. The planes, which could operate on both land and water, provided an easier and faster means of reaching wilderness areas than traveling by car or boat. The Johnsons became the first to fly over the peak of Mount Kenya and film it from the air. The 1935 feature film was also underwritten by the Fox Film Corporation and carried the Hollywood sounding title *Baboona*. Arguably the Johnsons’ most recognized and best movie, *Baboona* includes now classic aerial scenes of large herds of elephants, giraffes, and other animals moving across the plains of Africa.

End of an Era

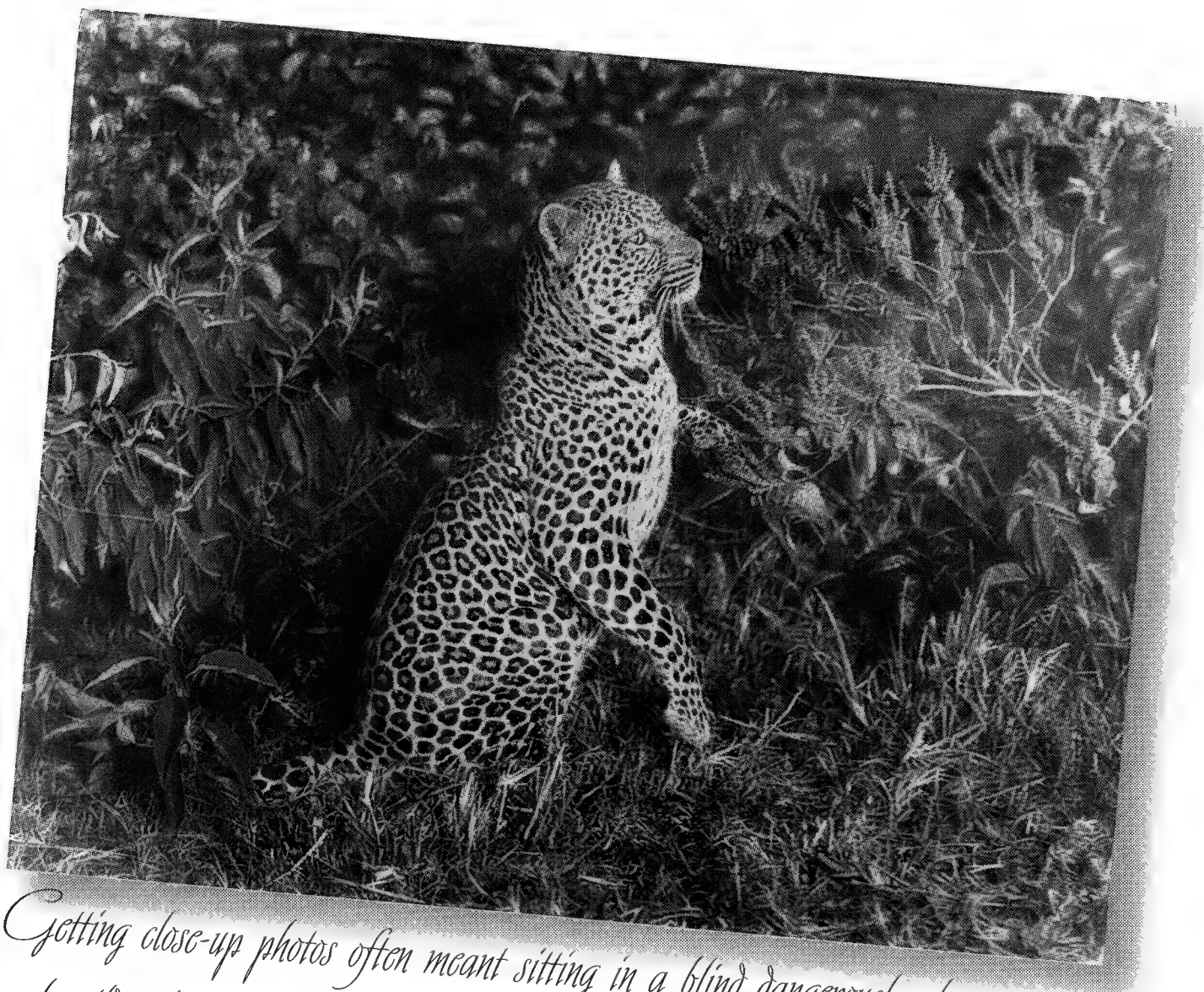
The Johnsons’ final trip together took them to British North Borneo again, from 1935 to 1936. They used their smaller amphibious plane, now renamed “The Spirit of Africa and Borneo,” and produced footage for the feature *Borneo* (1937).

In 1937, the Johnsons began a lecture tour across the United States with their Borneo footage. While traveling from Salt Lake City to Burbank, their Western Air Express Boeing 247 strayed off course and crashed in bad weather. Martin died the following day, January 13, 1937, from his injuries and from complications of his untreated diabetes. While still in a wheelchair with knee



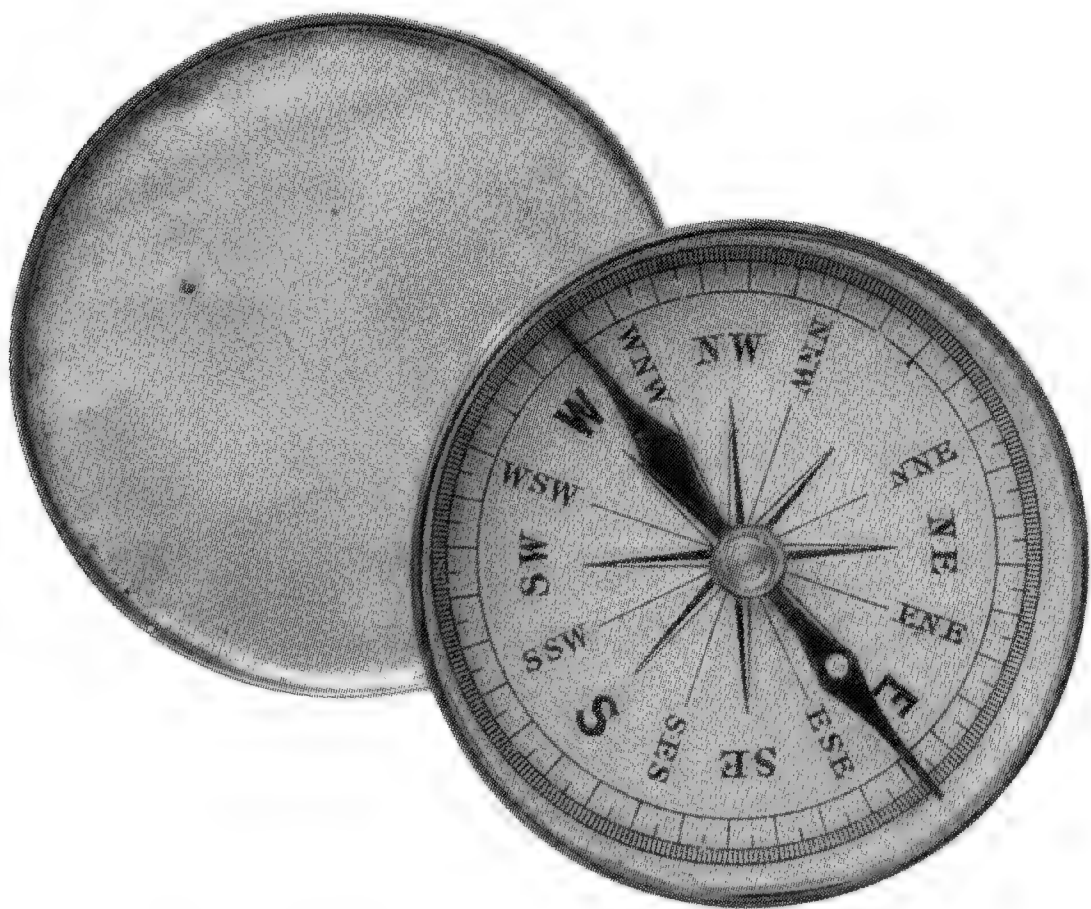
Osa Johnson poses with pack camels during a trek across northern Kenya.

—Martin & Osa Johnson Safari Museum.



Getting close-up photos often meant sitting in a blind dangerously close to such wild subjects as leopards.

—Martin & Osa Johnson Safari Museum.



and back injuries, Osa completed the interrupted lecture circuit. She returned to Kenya later that year to act as a technical consultant for the filming of the classic movie *Stanley and Livingstone* (1939).

Following Martin's death, Osa did most of her writing, including *I Married Adventure* (1940, republished in 1989 and 1997) and *Bride in the Solomons* (1944). Osa also made various silent lecture films, such as *African Paradise* (1941), which she took around the country and narrated. She also supplied narration and footage for the 1950s television series *Osa Johnson's Big Game Hunt*.

The success of *I Married Adventure* resulted in a Columbia Pictures feature by the same name in 1940. Studio shots with Osa playing herself and a less-than-convincing stand-in for Martin were used with actual Johnson footage to tell their story. The movie was popular, despite the panning it received from critics.

After 1937, Osa never returned to Africa. She was briefly married to manager/agent Clark Getts, but she could not find another Martin. Without Martin's influence, alcoholism took a toll on her career and health. In the years that followed, she did lecture and appear on television, but her work mostly reflected her and Martin's earlier years. On January 7, 1953, Osa died of a heart attack.

Because the Johnsons' films and photographs represent some of the earliest and best quality images of our natural world, they continue to be used in documentary programs in the U.S. and abroad. It is remarkable that their work continues to educate people about wildlife conservation issues—more than a half-century after their travels. According to Bill Toone, director of conservation at the San Diego Zoo, "They inspired literally generations of zoo biologists and the pictures and films that the Johnsons left behind are a picture of a world that we don't have an opportunity to go out and see anymore."

Conrad G. Froehlich earned an M.A. in Anthropology from Miami University (Oxford, Ohio), and has been the director of the Martin and Osa Johnson Safari Museum since 1989.

A LASTING LEGACY

A number of large U.S. institutions maintain significant Johnson archives, including the Library of Congress, the American Museum of Natural History, the Museum of Modern Art, the International Museum of Photography (George Eastman House), the American Heritage Center (University of Wyoming), and the UCLA Film and Television Archive.

However, the Martin and Osa Johnson Safari Museum, in Osa's hometown of Chanute, Kansas, is the only museum primarily dedicated to the lives and work of this intrepid couple. Within the museum's collection are about 10,000 Johnson photographs. In addition to the world's largest Johnson archive, the museum also houses the Imperato African Gallery, Selsor Art Gallery, Henshall Archives, and Stott Explorers Library, which includes 10,000 volumes of natural history and exploration subjects.

For more information, contact the Martin and Osa Johnson Safari Museum at 111 N. Lincoln Avenue, Chanute, Kansas 66720, or call 316.431.2730.

notes & news

Wolf Talk

Mexican wolves are still howling thanks to the efforts of Wolf Haven International, a wolf sanctuary and education center in Tenino, Washington. Join a conservationist from Wolf Haven to discuss the Mexican Wolf conservation and recovery program on August 14 at 7:30 p.m. in the Visitor Center Auditorium. Admission is free, but RSVP at 202.673.4801 or e-mail nzpem053@sivm.si.edu

Zoo Babies

Visitors to the Zoo over the summer may want to head to the Elephant House to welcome one of the Zoo's newest planned arrivals, a Masai giraffe calf (*Giraffa camelopardalis tippelskirch*). After a 14-month pregnancy, Griff, a 15-year-old female, was expected to deliver sometime in early- to mid- July. If all goes well, this will be her fifth calf and the 43rd giraffe to be born at the zoo.



Jessie Cohen/NZP

The Reptile House, with the aid of an incubator, is hoping to hatch a Cuban crocodile (*Crocodylus rhombifer*) egg sometime in August, which is great news for this seriously endangered species. Due to hunting and increasing sugarcane production (displacing wetlands) in its native Cuba, the numbers of this species in the wild have become dangerously low. The role of zoos in maintaining the numbers of Cuban crocodiles, through breeding projects, is increasingly vital. Other new arrivals to watch out for in the Reptile House are a green tree python (*Chondropython viridis*), born on May 2nd, and Australian snake-necked turtles (*Chelodina longicollis*), which are hatching almost every month.

April showers brought more than just May flowers to the Small Mammal House in the form of a baby bushbaby (*Galengetta senegalensis*), born on May 9th. A little creature with huge eyes, the bushbaby originates from the open woodlands, scrub, and wooded savannas of central and southern Africa and weighs approximately 0.8 ounces at birth. Baby acouchis (*Myoprocta pratti*) were born in late April. These furry-bottomed rodents belong to the family Dasypodidae—from the Greek *dasus* meaning hairy, and *proktos* meaning rump. When fighting, the thick hair in this area becomes erect as a

defense mechanism. Keep an eye out for infant marmosets, both pygmy (*Callithrix pygmaea*) and white-fronted (*Callithrix geoffroyi*), which were due some time in early summer.

The Bird House has also been busy and is expecting eggs to hatch from a variety of colorful species over the next few weeks. These include a flamingo (*Phoenicopterus ruber*) egg, eggs from a golden-breasted starling (*Cosmopsarus regius*), a boat-billed heron (*Cochlearius cochlearius*), and a blue-crowned hanging parrot (*Loriculus galgulus*).

FONZ Wildlife Art Festival September 18, 19, 20, 21

September is a great time to visit the Zoo. The long hot summer is drawing to a close and the enormous crowds of tourists begin to disappear. An added incentive is Friends of the National Zoo's annual Wildlife Art Festival. This increasingly popular four-day celebration of wildlife in art is now in its third year and is the perfect opportunity for any wildlife enthusiast to experience her or his favorite subjects in the form of paintings, sculpture, photography, carving, and fine crafts. Art classes, demonstrations, and the chance to view and buy the works of the 90 exhibiting artists make this an event not to be missed. The festival kicks off on September 18 with an evening Preview Party and Quick-Draw Auction giving guests an exclusive chance to meet some of the festival's finest artists while previewing and purchasing their works.

Thursday, September 18

Evening Preview Party and Quick-Draw Auction (Kennedy-Warren Ballroom; tickets required)

Friday, September 19

Art Workshops, Lectures, and Demonstrations (free)

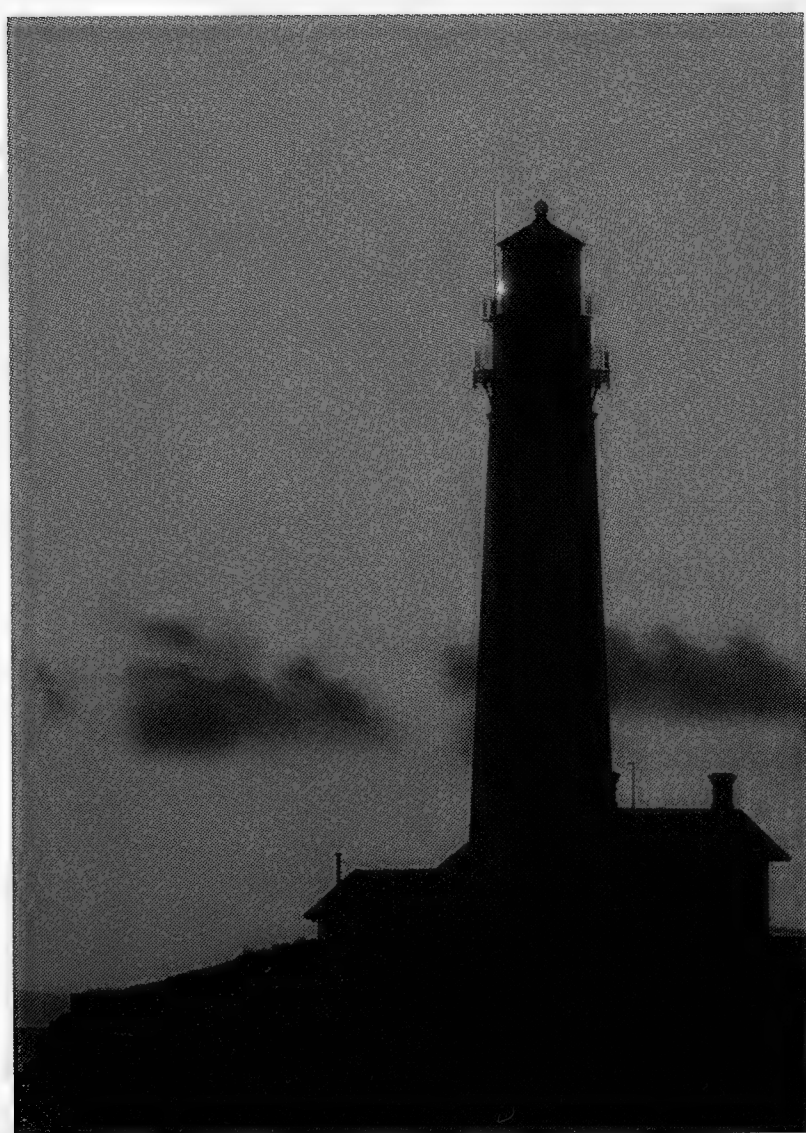
Saturday and Sunday, September 20 and 21

Exhibition and Sale (free; 10 a.m. to 6 p.m.)

Artists' booths will line the Zoo's Olmsted Walk, with the artists on hand to discuss their work. Kids can create their own masterpieces at the Kids' Creation Station.

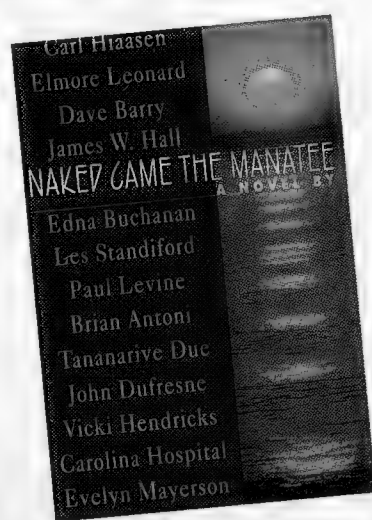
For more information and to order Preview Party tickets, call 202.673.4613.

books, naturally



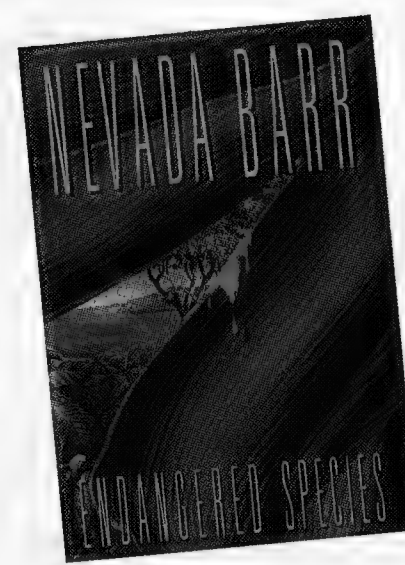
This year's roundup of beach books is particularly appropriate—most of them have coastal settings. So even if you're stuck at home, you can let one of these books take you on vacation for a few hours.

Naked Came the Manatee.
1996. Carl Hiaasen, et al.
G. P. Putnam's Sons, New York.
201 pp. clothbound, \$22.95.



Naked Came the Manatee is an immensely silly mystery that should be on the top of any vacationer's stack. If this tale doesn't take your mind off work, nothing will. Set in Miami, this comic thriller was serially written by 13 noted Florida writers, who each wrote one chapter that had to further the story created by the earlier writers. Pulitzer Prize-winning humorist Dave Barry wrote the hilarious, challenging first chapter and introduced a character that probably gave the subsequent writers fits: a manatee named, in unmistakable Barry style, Booger. It is Booger who gives *Naked Came the Manatee* its environmental theme. Life in Biscayne Bay is hell for a manatee. Booger swims in polluted water, is mangled by speedboat propellers, and tangled in carelessly discarded fishing nets, all real threats to real Florida manatees. But added to all this are concerted attempts to shoot him by the wacko villains who populate this story. Wondering whether Booger will survive will keep you turning the pages—that, and trying to follow the convoluted trail of a severed head with an uncanny resemblance to Fidel Castro.

Endangered Species.
1997. Nevada Barr.
G. P. Putnam's Sons, New York.
306 pp. clothbound, \$22.95.



Park ranger Anna Pigeon is on fire detail at Georgia's Cumberland Island National Seashore but her only chance to douse any flames comes when a pilot with a shady past and the island's only drug enforcement agent crash-land in a steamy palmetto thicket. Sabotage clearly caused the deadly crash, and Anna, unhappy with the official investigation, starts her own search for the truth. Suspects are as thick as the summer's humid air; possible motives as diverse as the island's wildlife; and soon, thanks to her solo sleuthing, Anna's life and career are as endangered as the sea turtles nesting on the beach. The suspense builds to a thrilling—and surprising—conclusion as Anna discovers a skeleton in just about everyone's closet, even the one person you least suspect. Nevada Barr writes with her usual authority about the insular world of the Park Service and the cast of characters who work for it and who hang out on its edges, from bureaucratic secretaries and supervisors to genteel volunteers and half-mad biologists. She also beautifully describes the natural world. Reading *Endangered Species*, you really feel the heat, hear the whine of mosquitoes, savor long ocean swims, and see ghost crabs scuttling across the sand. All in all, a great read.

books, naturally

Captiva.

1996. Randy Wayne White.

Berkley Prime Crime/Berkley Publishing Corp., New York.

319 pp. paperback, \$5.99.

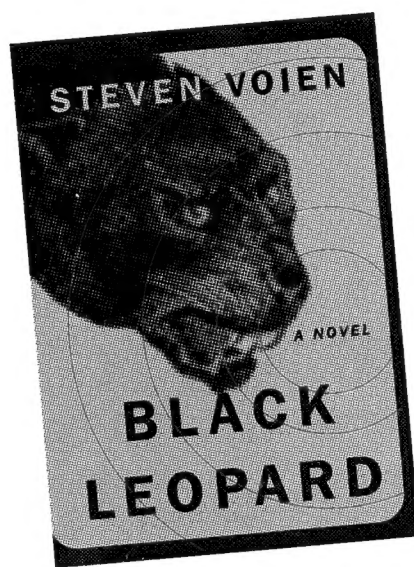
In *Captiva*, an impending ban on commercial net fishing tears apart a small community when the net fishers blame the sport fishers for literally ending their way of life on Florida's Sanibel and Captiva islands. When this conflict leads to murder, government agent turned marine biologist Doc Ford finds himself in dangerous waters. At once a target and a suspect, Ford must search for the real murderer while both the net fishers and sports fishers close their separate ranks to conceal the truth. Further clouding the issue is Ford's infatuation with an intriguingly off-beat woman who sees her and the island community's future not in fishing but in tourism. But finally tracking down the villain takes Ford from Florida to Sumatra, where only his long-suppressed agent mentality can save him. Randy Wayne White is a superb writer about nature. His depiction of the conflicts between different fishing interests and developers is right out of real life—apart from being a writer, White is a Florida fishing guide—and he manages to wrap environmental education in a thrilling package populated by fascinating characters. I discovered *Captiva* first, although it is actually the fourth in White's Doc Ford series. I'm looking forward to starting from the beginning.

Black Leopard.

1997. Steven Voien.

Borzoi Books/Alfred A. Knopf, Inc., New York.

287 pp. clothbound, \$23.00.



The fictional West African country of Terre Diamantée is no place for a vacation, or for American field biologist David Trowbridge, whose pioneering study of rainforest leopards is interrupted first by a bloody massacre and then by violent political mayhem. Even living together in a remote national park, professional rivalry kept Trowbridge and prickly French primatologist Jean Luc at loggerheads. But when Jean Luc and his team are murdered, Trowbridge is determined to find out who did it and why. Was it the elephant poachers Jean Luc had declared war on, the loggers chipping away the edges of the rainforest park Jean Luc loved, or someone with even more sinister goals? While Trowbridge searches for answers—and tries desperately to finish his leopard study—he finds himself on center stage in a drama of official corruption whose last act is slated to be death for the rainforest park and its wild residents. With *Black Leopard* and his previous novel, *In a High and Lonely Place*, Voien has created a new category—the environmental-political thriller—that offers a glimpse into the increasingly high-stakes battles being fought around the world to save the last patches of nature.

Shooting at Loons.

1995. Margaret Maron.

The Mysterious Press/Warner Books, Inc., New York.

241 pp. paperback, \$5.50.

North Carolina's beautiful Outer Banks is the setting for *Shooting at Loons*, which features unorthodox judge-cum-sleuth Deborah Knott. Not unlike *Captiva*, in *Shooting at Loons* conflicts between fishermen trying to preserve their centuries-old way of life, environmentalists trying to preserve unspoiled seashore, and developers trying to make fortunes in beachfront property erupt into murder. When Knott discovers the first body, her working vacation turns into a murder investigation, and she stands a good chance of becoming a victim in this emotional environmental war. The author knows North Carolina and its varied communities well. She paints as colorful and convincing a picture of the yacht club set as she does of the struggling fishing families, and deftly exposes the clash of values that provides so many of her characters with a motive for murder. Reading this book at the beach, you might people-watch with a new perspective.

—Susan Lumpkin



GOOD NEWS . . .

Now as cars streak across Florida's State Road 46, animals can travel in a wildlife tunnel beneath a raised stretch of this busy highway toll free. The underpass, opened three years ago, is an experimental one-million-dollar wildlife crossing designed to prevent animals from becoming roadkills. Twenty-four feet wide and 48 feet long, the tunnel cuts through bear habitat near Orlando, providing safe passage for part of the state's threatened black bear population (now at a paltry 1,250). The Florida Game and Fresh Water Fish Commission reports, thanks to infrared flash cameras in the tunnel, that at least five bears have used the underpass, as well as a veritable Noah's Ark of deer, coyotes, opossums, armadillos, snakes, and turtles. And not one bear has been killed since the tunnel was built. On State Road 29 in southern Florida, a total of 45 similar crossings have also been effective in reducing panther roadkills. Florida's panthers are among the most endangered animals in North America; fewer than 50 still roam the wilds of south Florida. According to Tom Logan of the Florida Game and Fresh Water Fish Commission, all of the crossings have been successful and the state plans to construct more in the future.

—From *Wildlife Conservation*, April 1997, and The Florida Game and Fresh Water Fish Commission

. . . BAD NEWS

Europeans are hearing even fewer turtle doves (*Streptopelia turtur*) coo this summer. This bird of Christmas lore is a summer migrant, leaving Europe in early autumn for warmer weather in sub-Saharan Africa, and returning in late spring. It is during this long return flight that turtle doves are in the most danger. As they fly over the coasts of the Mediterranean, doves are shot and netted for sport and food in enormous numbers. French and European laws, as well as a European Community Bird Directive, prohibit hunting of doves during their spring journey home. Nevertheless, illegal hunting continues, significantly threatening populations. Birdlife International's partner in France campaigns in the country each year against turtle dove poaching. Now they are planning to go one step further by taking the French Government to court for failing to uphold the law.

—From *Oryx*, January 1997 and World Birdwatch, September 1996

WHAT'S IN A NAME? 181

Echidnas, or spiny anteaters (*Tachyglossus aculeatus*), don't waste any time eating. They are part of the Tachyglossidae family from the Greek *takhos* for fast and *glossa* for tongue. Echidnas never develop teeth. Instead, they let their quicksilver tongues do all the work. Well-lubricated and sticky, echidna tongues are perfect for snatching the termites and ants that comprise the bulk of the animal's diet. A pad of horny spines on the back of the tongue and on the palate grind the food. The echidna's tongue may not fully explain the animal's scientific and common names, however. *Aculeatus* is from the Latin *aculeus* meaning sting, or point, and *echidna* is Greek for viper. The echidna, like the platypus and certain shrews, is a venomous mammal. Males are equipped with a venom duct and gland that connect to a spur on the back of the ankle. Strangely, though, these poison ducts and glands are not functional—the vestiges of a venom system that may have originated as a defense against predators long since extinct.

MATH, SCIENCE, ENGLISH, HISTORY . . . WILDLIFE? 152

In a country where rhinoceros horns and tiger bones are illegally peddled and prescribed, China's classrooms may prove the best place to instill a conservation ethic. A pilot wildlife and environmental studies program facilitated by the Wildlife Conservation Society is now part of the Yunnan province school curriculum, covering everything from pollution and habitat destruction to poaching and even cultural history. One goal of the program is to stop the trade in endangered species by asking students to re-examine the traditional Chinese appetite for wildlife medicines, and by teaching them its devastating effect on wildlife populations. Impressed by the experiment's success in Yunnan province, education officials are considering its expansion into other areas as well. China is home to endangered species such as the giant panda, the golden monkey, the tiger, and the Asian elephant. In educating its youth, China may be taking the first step toward a more ecologically balanced future.

—From *Wildlife Conservation*, February 1997

—Janeen Renaghan

REFRESH
YOUR
SENSES.



FONZ WILDLIFE ART FESTIVAL

SEPTEMBER 18 THRU 21, 1997



Tyger! Tyger! © Terry Isaac, 1997. Photo courtesy of Mill Pond Press.

THURSDAY, SEPTEMBER 18
Evening Preview Party & Quick-Draw Auction (Tickets Required)
Kennedy-Warren Ballroom—
Adjacent to the National Zoo

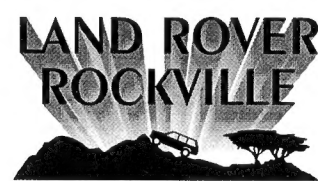
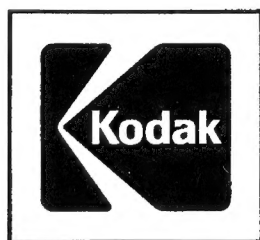
FRIDAY, SEPTEMBER 19
Art Workshops, Lectures,
Demonstrations (Free Admission)
At the Zoo

**SATURDAY, SEPTEMBER 20 &
SUNDAY, SEPTEMBER 21**
Art Exhibition & Sale,
Entertainment, Children's Creation
Station, Ethnic Food Bazaar (Free
Admission)
At the Zoo

FOR MORE INFORMATION, OR FOR PREVIEW PARTY TICKETS, CALL 202.673.4613.
FOR SPECIAL WEEKEND BENEFACTOR PRIVILEGES, CALL 202.673.0270.

A portion of proceeds benefit the Zoo's endangered species education and conservation programs.

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